312 tion ditches because the sand in which they are built is so light that they easily break.

The main ditches are perhaps two to three feet deep; the others are quite shallow. The ditch system is not complex because most fields that are irrigated lie directly under the main ditches; others are fed by a few laterals. Maintenance of the dams and ditches is not a community affair, but devolves on those whose fields are supplied by the particular dam or ditch. They are dilapidated most of the time, being repaired only as needed. This is to be expected because the material is so light as to wash out easily and it would be futile to keep them up when not in use. There is no set regulation for the use of the water. The supply is large, the need is small, and apparently there is little friction over [578] rights to its use. Yet quarrels have arisen from this source.

Planting is a family occupation, even the children helping to dig 241 holes. Garcés says:—

> 592 I had much complacency to see that as soon it was dawn each married man with his wife and grown sons went forth to till his milpas, taking the necessary implements, as hatchets, dibbles (coas), and hoes, all of which they procure from Moqui.[1]

As a rule each family plants as much corn as possible. Corn, beans, and squash are the staples, the year-round food. Corn (*teyä'dj*) is not planted 243 deep; 5 to 7.5 cm. being usual. Straight lines for the rows of hills may be drawn with the foot; their orientation is immaterial. Kneeling, the [412] first hole is scratched with the planting stick (*hwdlid*) in the manner of a canoe man wielding his paddle. This is a buckthorn branch (*Condalia lycioides* var. *Canescens* ((Gray) Trel.), 2 cm. in diameter, 65 cm. long, with one end cut wedge-shaped.[2] The soil is loosened to a depth of 20 cm. and eight or ten kernels dropped in. Before putting the corn in the first hole, the planter prays:—

[539]

mĕdjpák	teyädjmehána	owi
growing	corn good	I do it.

"Grow good: when your stalk grows, grow tall: grow like the mythic corn." Then he drops the kernels into the hole and chewing another, blows it toward the mythic corn, two white marks high on the canyon wall. These represent the two original ears given by the twin culture heroes.[3] Filling the first hole, he takes two short steps forward, kneels, and digs a second, and so on. The second row parallels this

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[114] [1] Coues, 348. A later statement (435), that tribes upstream from the Mohave lack crops, must be taken to mean that the Walapai and Havasupai had less than the Mohave.

[2] Cushing, (a), 550, notes the use of a planting stick provided with a footrest, but my informants denied this.

[171] [3] The Zuñi also pray at the first planting [Cushing, (d), 178-179].

Ears of green corn in their green husks are laid to roast on a small 252 bed of coals, or buried in hot ashes, until the outer husks are thoroughly [251] charred. The husks are stripped back, the ends of the cob trimmed clean, and the ears are tied in pairs by their husks to be hung up until some casual visitor comes by. Green corn is less commonly roasted in underground pits. The characteristic mode of eating corn on the ear is to break off the kernels with the thumb nail, catching them in the palm of the same hand. When the hand is full, these are poured off the side of the hand into the mouth.

Bread is made of green corn cut from the cob and ground. This pulp is moulded into cylindrical masses, wrapped in green cornhusks and baked in the ashes. When husks are removed the solid cakes may be eaten as bread.

For dumplings, cornmeal (*teyädjädiva*, corn, ground?) is kneaded into a stiff paste with hot salted water. The dough is rolled between the palms into cylinders, bits pinched off, and rolled into balls, 3 cm. in diameter. These are dropped into hot water and occasionally stirred while they boil a few minutes.

Wafer bread (*bigä*, from Hopi *piki*) of cornmeal is baked in the char- ● [171] acteristic Pueblo fashion on a flat slab (*tïcvahaiyädid*), a meter long and half as wide, supported over a fire. It is made either of white or blue corn, but never by mixing varieties.

Beans (*mädigä*) are parched before they are ground. Bean flour mush (*mädigidva*, beans, ground) is made by slowly stirring the flour, into water that has been brought nearly to the boiling point. When the mush boils, it is removed from the fire.

Sunflower seeds are parched and ground, when they may be eaten with the sweet mescal drink or a decoction of dried peaches. Sometimes they are parched, mixed with parched corn, and ground fine; then it is eaten dry by the pinch.

Squash is boiled. The dried strips (*hamtëtüpä*) are broken into bits and boiled until soft (*hamtëtäöla*); this is sweet. The rind is sometimes hacked off fresh squash, and the fruit cut into small pieces, discarding the seeds, before it is boiled; this is not sweet.

Squash, melons, peaches, figs, and even corn are eaten as soon as they show the first signs of ripeness, so glad are the natives at the appearance of an edible green. Unripe fruits cut off before they reach maturity, as by a flood, are not discarded, but furnish at least something succulent to chew on.

[251] Meat is sliced and cured by drying. It is usually necessary to pound it between two stones before it is cooked, and then it is commonly

stewed. It may be placed in warm water to simmer; then bean flour is 252
added to thicken the stew. Squirrels should be eaten fresh. The viscera
are removed, and if it is to be boiled, the skin, head, and tail as well,
but not if it is to be roasted. Rabbits are roasted in the ashes and possibly in roasting pits. Doves and quail are eaten, but only infrequently, 262
although they abound at harvest time. Only quail eggs are eaten.

Fish are neither caught nor eaten. (These live in the Colorado
but not in Cataract Creek.) Fish are not tabooed, but the Havasupai [226]
are afraid to eat them because they never have eaten them. Snakes,
frogs, and lizards are not eaten; in fact, they mock the Walapai for
eating the last mentioned.

Most cooking is done out-of-doors and meals are served there also. [252]
The cooking vessels, trays of fruit and bread, and vessels of drink are 264
placed together on the ground. A vessel of ground salt stands near by,
but very little is used, and practically none at all in the process of cooking. The whole family groups itself about these, within easy reach of the
one or two *pièces de résistance*. Bits of meat are fished from the stews
with fingers, twigs, or knives, while the mush is scooped or sopped up
with a bit of bread, flat sticks, little horn and wooden spoons,[1] or even
with three fingers. Eating manners are fairly decorous by our standards.
Even small children help themselves, but forwardness, quarreling, and
especially pilfering before meals, is met by sharp reproof. As a rule
women and children eat with the men, but when there are male visitors,
the former often wait their turn. In such a case, for example at a
dance, the men leave a fair share of the food. As a rule three meals are
eaten during the day, but that at midday is somewhat inconsequential.
The others are substantial; breakfast on rising, and the last meal after
sundown. Everyone eats irregularly throughout the day, for to whatever
camp one goes there is always cookery in progress; corn roasting, a load
of peaches brought home, and so on. While considerable is eaten at each
meal, no food is ever wasted, and the natives do not stuff. Those who
have seen the Zuñi in the Hopi villages ridicule their habit of expressing
thanks after a meal.

COMPARATIVE NOTES

Havasupai agriculture is one of the few traits shared with Pueblo 171
culture. The general distribution of cultivation through the Americas 241
is well known, but there has been no attempt at fixing its northern limits
in the Southwest in detail.

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[1] Cushing, (a), [illegible].

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In northern Mexico cultivation has been recorded among several modern tribes: Huichol, Cora, Tepehuane, Tarahumare, Tepecano, and Opata.[1] There are records of the Jumanos in eastern Chihuahua in 1582, the Guaymas, a southern Piman group near the Seri ("land-tillers on a very low scale"), and the Sobaypuris, Pimans on the Rio San Pedro.[2] Intensive agriculture is characteristic of the Pueblos.[3] It would be interesting to know the extent it was followed in such outlying communities as Taos and Picuris. Pima, Maricopa, Yuma, Cocopa, and two groups near the last, Talliguamayque and Cajuenches, Mohave, and Navaho raised crops in abundance.[4] The Havasupai and Papago are agriculturalists to a lesser extent, both subsisting in some degree on wild seeds. But cultivation is greater among them than among the Jicarilla, and Western Apache, Apache-Yuma, Chemehuevi, Shivwits and Kaibab Paiute, and Walapai.[5] These tribes mark the limits of agriculture in the west. It is known not to have extended into California, the Basin, or into the southwestern Plains. In fact for certain tribes in the immediate vicinity of those practising the art we have specific information that it is lacking; to wit, Mimbreños and Tonto Apache, Moapa Paiute, Akwa'ala and Halyikwama of Baja California, and the Seri.[6]

Perhaps irrigation was in all these cases part of the agricultural technique, but it is not recorded. It is the practice of all the Pueblos, the Navaho, Havasupai, Shivwits, Kaibab (?), Pima, Maricopa, and Cora. The Mohave utilization of the overflow of the Colorado corresponds to the planting of other tribes in dry washes or creek bottoms.

171
412
The planting sticks and hoes offer some comparative points. Planting sticks are of two types; one a straight stick having a wedge-shaped point, the other similar but provided with a projecting footrest near the lower end. The first type is that of the Havasupai, Hopi, Pima, and probably Shivwits. The Zuñi use the form with the footrest, while the Navaho use both. The Havasupai hoe is one form of a general type: a flat stick with its blade and handle in one plane, approximating a weaving sword in shape, although there is considerable variation. This type is also used by the Pima, Mohave, Hopi, Navaho, and Zuñi. The last two also use a hoe like our own, a wooden blade or elk scapula set

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[1] Lumholtz, (a), [illegible]; Bandelier, (a), [illegible]; Bartlett, I, 444; Mason, J. A., (d), 125.
[2] Bandelier, (a), [illegible], 101.
[3] Cushing, (d); Hough, (c), [illegible], Pl. 18.
[4] Bartlett, II, 178, [illegible]; Pattie, [illegible]; Russell, (d), [illegible]; *Handbook of American Indians*, I, [illegible]; Whipple, Ewbank, and Turner, [illegible]; Kroeber, (a), [illegible]; Letherman, [illegible]; Franciscan Fathers, [illegible]; Bandelier, (a), [illegible].
[5] [illegible] *Handbook of American Indians*, I, [illegible]; Whipple, Ewbank, and Turner, [illegible]; Corbusier, [illegible]; Lewis, (b), [illegible]; Whipple, Ewbank, and Turner, [illegible], report agriculture on the [illegible] of the Chemehuevi, but this does not seem likely.
[6] Bartlett, I, [illegible]; Whipple, Ewbank and Turner, 14; Kroeber, (h), [illegible]; McGee, [illegible].

transversely at the end of a shaft. The Havasupai use a horse scapula 171
but without hafting it.[1] [412]

Cotton is raised by the Hopi, Tewa (except possibly Pecos and Taos), 171 x
Pima, Maricopa, Western Apache, and Tepehuane. It is not grown by 248
the Navaho, Zuñi, Acoma, or the Tanoan Pueblos.[2]

Tobacco is widely used in North America though it is not every- 171
where grown. In the Southwest and the adjacent territories its cultiva- 249
tion has been noted for the Zuñi, Hopi, Navaho, Havasupai, Yavapai, San Carlos, Pima, Southern Diegueño, and the Mayos of Mexico.[3] Smoking is known to have been customary among neighboring tribes, who did not raise the plant: Cocopa, Akwa'ala, Mojave, Gosiute, Paviotso, Washo, Wind River Shoshoni,[4] and generally in California. The Havasupai habit of planting in ashes without turning the soil is also the custom of the Hupa.[5]

Unfortunately, I do not know which species the common Havasupai
tobacco is. Its name, *ûva*, however, is connected with Southern Diegueño 192
op (*Nicotiana attenuata*), Shasta *ôp*, Takelma *ô"p'*, Crow *ôp* (*N. multi-* 171
valvis), Hidatsa *ô'pe* (*N. quadrivalvis*), probably Washo *pinkur*, and possibly Pima *viopal viofâ*, "like tobacco" (*N. trigonophylla*).[6] There is a similar extension of the name "Coyote's tobacco" though again to distinct species; Havasupai (*N. trigonophylla*), Southern Diegueño (*N. attenuata*), and Pima (*N. Bigelovii*).

Mescal (agave) is gathered and roasted in pits by most, if not all, 171
the non-Pueblo peoples and perhaps by the Pueblo and Mexican tribes 222
as well. It is an item of some importance for the Jicarilla, Mescalero, 252
White Mountain and San Carlos Apache, Navaho, Havasupai, Paiute, Yavapai, Pima, Cahuilla, and Huichol.[7] It would be worth knowing how far this distribution corresponds with that of the plant. Pit roasting is probably absent from the Basin and the Plains, and from California except among the southern desert tribes. But much farther north, in the Plateau and adjacent sections of the Northwest Coast, it is the characteristic mode of preparing roots. The mescal cabbages are probably
always pried off with a chisel-edged stick (Havasupai, White Mountain [412]
Apache, and Pima) and trimmed with the peculiar hatchet (Havasupai,

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[1] Cushing, (d), Pl. III, 204; Russell, (d), 88, 97; Franciscan Fathers, 265-6. Mohave specimen in the Anthropological Museum, University of California.

[2] Spier, (f), 80.

[3] [illegible]: Curtis (XII, 39) denies that the Hopi plant tobacco; Corbusier, 329; Russell, (d) 119; Spier, (a), 246; Bandelier, (a), 46; Goddard, (c), 203.

[4] Lowie (h), 218; Kroeber, (a), 293.

[5] Goddard, (a), 27.

[6] Lowie, (f), 198. Washo name from Doctor Lowie, 1928.

[7] Goddard, (a), 146-148; Curtis, I, 17-19; Palmer, 617; Corbusier, 327; Russell, (d), 70; [illegible] Lumholtz, (a), 13.

171 222 [254] [412] White Mountain and San Carlos Apache). Like the Havasupai, the Yavapai and White Mountain Apache dry it in large cakes on a layer of sticks and make a concoction of the dried product.

171 412 222 The method of harvesting wild seeds by beating them with a scoop into a basket held in the free hand is characteristic of the Basin tribes and those in adjacent California and Arizona. A woven seed-beater is used by the Kaibab Paiute, Panamint, Paviotso, Gosiute, Ute, Northern Maidu, Klamath, Modoc, Achomawi, Atsugewi, and Cahuilla. The Northern Shoshoni and Salinan substitute tray baskets for these; the Western Apache and sometimes the Salinan a stick. The Yavapai also gather the seeds in the characteristic manner.[1] There are differences in the shape and technique of the beater which would repay investigation.

171 224 A number of tribes share a definite procedure prior to a deer hunt which corresponds to the Havasupai meeting at a fire and praying to the sun. The Huichol obtain power from a fire on the evening before the hunt; Luiseño hunters stand in the smoke to be freed of the effects of any breach of social observance. The Maidu meet at a fire to offer to the spirits; the Achomawi and Atsugewi have a ceremony in the evening of the first day of the hunt at which the leader chews roots which he throws toward the mountains. Bourke states that the Paiute and Walapai (but not the Mohave) sing and dance before a deer hunt, but he does not specify the procedure. There is at least a partial analogy in the Western Apache sprinkling pollen and praying to the sun.[2] The Tepecano and Hasinai also have special observances.[3]

[833] The Havasupai also hold continence a prerequisite for success in the hunt. This is true of the Huichol, Paiute, Walapai, Maidu, and is at least suggested by the Luiseño data. It may be general.

I do not know that the deer drive of the Havasupai constitutes a definite type. Driving them into a *cul de sac* or over a cliff may be very common. It has been noted for the Navaho, Yavapai, Maidu, and Gosiute.[4] The chute-and-pound method is widely distributed over the Basin-Plateau and Plains, but is unknown to the Havasupai.

The use of a deer head, or that of an antelope or mountain sheep, as a disguise in stalking is a rather widespread practice. In the west it is recorded among the Mimbreños Apache, Navaho, Zuñi, Hopi, Havasupai,

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[1] Powell, 1895; Coville, 353; Lowie, (h), 234; Chamberlin, 341; Mason, O. T., (a), 480; Dixon, (a), 180; (c), 218; Barrett, (a), 257; Kroeber, (g), 48; Lowie, (a), 187; Mason, J. A., (e), 130, 143; Bourke, (d), 131; Corbusier, 335.

[2] Lumholtz, (c), II, 40, 41; Sparkman, 199; Dixon, (a), 193; (d), 219; Bourke, (a), 178; (d), 802, 804; (c), 438.

[3] Mason, J. A., (d), 120; Bolton.

[4] Stephen, 207; Franciscan Fathers, 475; Matthews, (d), 330; Corbusier, 336; Dixon, (a), 193; Chamberlin, (b), 233.

Yavapai, Luiseño, Salinan, Maidu, Achomawi and Atsugewi,[1] Kombo (Yana or Yahi), Paviotso, Wind River and Lemhi Shoshoni, Chopunish (a group at the eastern edge of the Nez Percé reservation), and Crow.[2] There are doubtless others. 171/224

Communal rabbit drives are probably very common in the Southeast and the Basin, but records of the fact elude a search. They are recorded as the practice of the Navaho, Acoma, Zuñi Hopi, Havasupai, Yavapai, Pima, Southern Diegueño, Luiseño, Shivwits, Gosiute, Paviotso, Washo, Northern and Southern Maidu, Achomawi and Atsugewi, and probably Walapai, Mohave, Uintah, and Salinan.[3] There is some variation in the procedure: the Paviotso, Havasupai, Yavapai, and Hopi hunters form in a line and drive in a straight course; the Shivwits, Navaho, Pima, and again the Hopi form a circle. The Washo, Paviotso, and Shivwits have a special director of the hunt; the Havasupai do not.

The rabbits are frequently driven into nets: Walapai, Mohave, Southern Diegueño, Luiseño, Salinan, Shivwits, Uintah Ute, Paviotso, Washo, Northern Maidu, Achomawi and Atsugewi. This distribution omits the Southwestern tribes, except for those on its western fringe.

The characteristic curved rabbit club was not in universal use. It is the weapon of the Hopi, Zuñi, Navaho, Mohave, Southern Diegueño, Luiseño, and Cahuilla. The Zuñi, at least, also use straight billets of wood. Several others are known to use clubs of some sort (Yavapai, Pima, Western (?) Apache, Achomawi, and Atsugewi) but the Shivwits and Havasupai use none at all.[4] 171 411 224

Many tribes in this area use a stick provided with a crook to draw rabbits and other rodents from their hiding places. But it is recorded only for the Yavapai, Tonto Apache, and Shivwits Paiute. I have also a recollection of seeing this tool among the Navaho, but a Havasupai informant referred to the use of a straight stick provided with little barbs like their own. The same straight stick is used by the Zuñi and probably as a second type by the Shivwits.[5]

The Navaho use a trap identical with that of the Havasupai, and this is true of the Hopi, if I correctly interpret the description given by Mason based on information from Hough.[6] 171/224

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[1] [illegible], 50; Franciscan Fathers, 378; Matthews, (d), 217; Stevenson, M. C., (b), [illegible] 441; Hough, (c), 350; [illegible], 220; Sparkman, 197; Mason, J. A., (a), 124; Dixon, (a), 192 [illegible] 212.

[2] Waterman, 271; Lowie, (i), 197, 199; (a), 185; Lewis and Clark, IV, 371; V, 38, 90; Lowie, [illegible] 280.

[3] Franciscan Fathers, 204, 479; [illegible], ch. 11; [illegible], 345; Hough, (c), 174 [illegible]; 220; Russell, (d), 80; Spier, (d), 257; Sparkman, 196; Lowie, (i), 195–199; Powell, 127; [illegible], 220; Barrett, (b), 11–12; Dixon, (a), 193; Pope, 20; Dixon, (c), 213; Whipple, 115; Mason, J. A., (a), 143; Mason, O. T., (c), 288.

[4] Hough, (c), 290, 297; Mohave specimen in the Museum of Anthropology, University of California; [illegible], 50; [illegible], (b), 60.

[5] [illegible], 220; [illegible], 414; Powell, 133; Cushing, (d), 401; Lowie, [illegible], 199.

[6] Franciscan Fathers, 323; Mason, O. T., (j), 472.

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The grinding slab or metate of the Pueblos is also found in Southern California and the Basin. Among the non-Pueblo peoples it is used to some extent by the Pima, Navaho, Havasupai, Yavapai, Mohave,

[102]
[415]

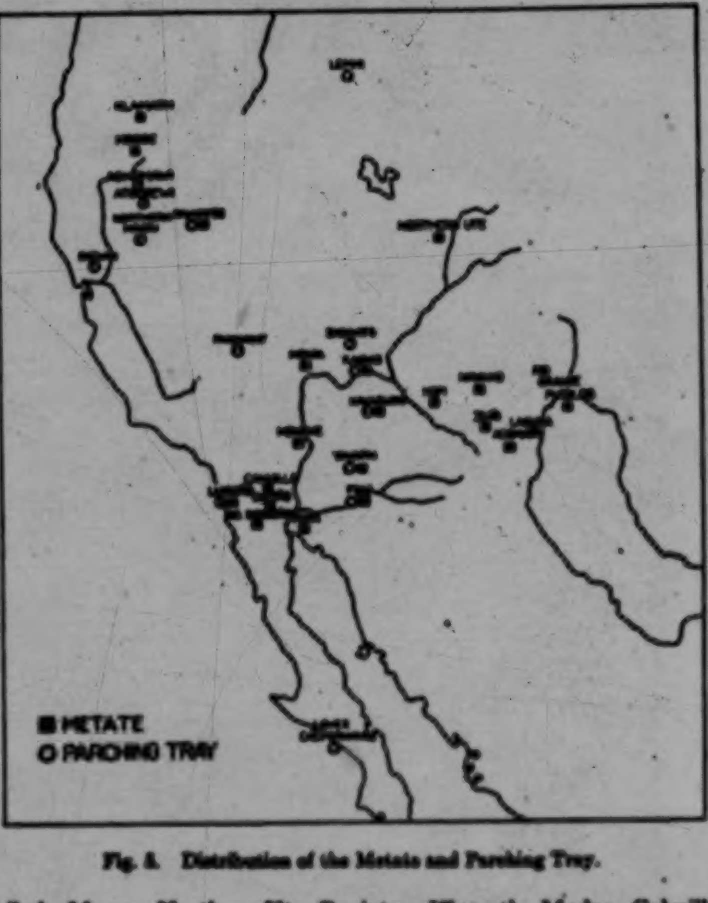

Fig. 5. Distribution of the Metate and Parching Tray.

Kaibab, Moapa, Northern Ute, Paviotso, Klamath, Modoc, Cahuilla, Cupeño, Luiseño, Southern Diegueño, Yuma, and undoubtedly by others in their vicinity.[1] Most of these people, if not all, use stone or wooden mortars as well. Mortars are the characteristic utensil of the central Californian tribes and those of the northern Basin.[1] As might have been anticipated from their geographic position some of the western groups apparently favor the use of mortars rather than metates: Pima, Diegueño, Luiseño, and Cahuilla. (Fig. 5.) 171 412

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[1] Russell, (d), [illegible]; Hrdlička, (a), [illegible]; Franciscan Fathers, [illegible]; Corbusier, [illegible]; Handbook of American Indians, I, [illegible]; Powell, [illegible]; Lowie, [illegible]; Barrett (a), [illegible]; Kroeber, (g), [illegible]; Sparkman, [illegible]; Spier, (c), [illegible]; [illegible].

Parching seeds by tumbling them about with live coals in a shallow basket is a method widely used among Californian, Basin, and the western rancheria peoples of the Southwest. It is recorded for the Havasupai, Yavapai, Pima, Kaibab and Shivwits Paiute, Panamint, Paviotso, Lemhi Shoshoni, Lower Californians, Luiseño, Patwin, Northern Maidu, Klamath, Achomawi, and Atsugewi. (Fig. 5.) The Pima also cook in this fashion using a shallow pottery vessel. The Lower Californians sometimes substituted a turtle shell. Doubtless many others shared the practice: the Salinan, at least, did not.[2] 171 252

Wafer bread is a familiar Pueblo product, probably in use in all the towns, but certainly among the Hopi, Zuñi, and Acoma. It is also prepared by the Havasupai and Navaho but is not known to the Pima.[3]

Fish is not an article of diet of many of the Southwestern rancheria people. This is not altogether a matter of the absence of fish, for they must be at least as abundant as in the Basin where they are eaten. There is a definite taboo ranging from the horror of the Navaho to the mild sentiment of the Havasupai. These tribes include all the Athapascans, (except the Lipan), the Caddoan Taovayases, the Havasupai, Walapai, Yavapai, and Zuñi. Outside of this restricted area fish are eaten: Cochiti, Lipan, Hasinai, Pima, Cora, Tepecano, Seri, Southern Diegueño, Apache-Yuma, Mohave, Yuma, Cocopa, Washo, and all the Basin Shoshoneans.[4] 171 262

With regard to other tabooed animals little can be said because of the fragmentary nature of our information. Lizards are not eaten by the Havasupai, Mohave, Pima, Salinans of San Miguel, the Shoshoneans of Kern River, and the southern Yokuts. But the neighboring Yavapai, Walapai, and Paiute did not despise these, while in California, the northern Yokuts and the Miwok eat most reptiles.[5]

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[1] Cocopa (Chittenden, [illegible]); Mohave (Whipple, [illegible]); Salinans and Yokuts (Mason, J. A., (a), [illegible]); [illegible] Shoshoni and Fort Hall Bannock (Lowie, (a), [illegible]).

[2] Coolidge, [illegible]; Powell, [illegible]; Lowie, [illegible]; [illegible] Russell, [illegible]; Mason, J. A., (a), [illegible].

[3] Stevenson, M. C., [illegible]; Cushing, [illegible]; Sedgwick, [illegible]; Franciscan Fathers, [illegible]; Russell, [illegible].

[4] [illegible]

[5] Kroeber, (a), [illegible]; Russell, [illegible]; Mason, J. A., (a), [illegible]; Coolidge, [illegible].

285
415
Water bottles are biconic with gentle reversed curves giving a nipple effect to the pointed base and narrow mouth (Fig. 10). These are about 35 cm. in diameter and 25 cm. in height. Two thongs are inserted just above the maximum diameter to take the burden band. Bottles (*adwagatagdĭled*) are also made without the lower cone, that is, with a flat or rounded base.[1] Occasionally this flat base is pushed inward. A third type was used when traveling afoot. It has an hourglass shape, with a flat bottom, and the upper part brought to a narrow mouth. This was

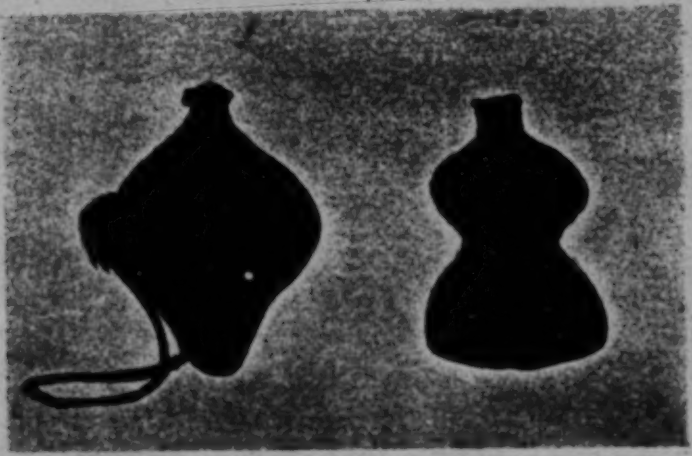

Fig. 10 (50.2–1237, 1645). Two Types of Basketry Water Bottle.

carried at the small of the back by a thong encircling both the wearer's waist and the constricted part of the bottle.[2] A bottle is stoppered with leaves or a corncob.

285
The best material for twined baskets is acacia twigs (*hă'djĭl'at, Acacia greggii* Gray) which are gathered when green. If picked dry, or if dried in storage, they are soaked two or three nights before using. Cottonwood and willow twigs are inferior. These, too, are gathered green. They may be used for either warp or weft, or in combination with acacia. Mesquite is never used.

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[1] Two figured by Mason, O. T., as [illegible] have the coil technique and shape of much of Navaho specimens. [(1), Plate [illegible], Figs. 4 and 5, see p. [illegible].]

[2] Similar bottles occur among San Carlos Apache ([illegible]) and Paiute (Peabody Museum, Salem). The [illegible] are also accustomed to carry small objects at the small of the back in a sack tied around the waist. The [illegible] have a similar double water gourd ([illegible]).

[171]

Sometimes peaches, etc., are rubbed over the interior of parching trays 285 to prevent them from burning.[1]

When the water bottle is ready for its coating, it is vigorously 285 rubbed all over with a dry corncob so that the fine fragments of the latter 381 will fill the interstices. A mouthful of water is sprayed over the basket, then the soapweed paste is smeared on and rubbed in. This paste is made of old soapweed stalks which are pounded, the connective tissue worked up with water into a dough, and set aside for future use. When wanted it is pounded up and again mixed into a paste with water. After this is applied, a handful of red paint powder is mixed with water and smeared over the still wet bottle.[2] The bottle is then stood in the sun to dry. It next receives a coat of piñon pitch (*ánaid*). The clear gum of this tree is picked off the bark, and boiled down for ten or twenty minutes until dark brown. A quantity (six or seven cupfuls) of the liquid is poured inside the bottle. Brush is stuck into the mouth to serve as a handle. The bottle is then laid on its side near a bed of coals—the pitch is highly inflammable—and continuously turned over, the heat preventing the pitch from coagulating until it has filled all the interstices. More pitch is evidently poured or swabbed over the exterior of the bottle, which rests on a bed of brush piled over the coals.[3] A piece of cloth or buckskin is frequently placed over the pointed bottom; one bottle (50.2-1640) has a pad of loosely woven yucca fiber, sticking tight to the soft pitch. The pitch does not melt in the sun to any extent after it once hardens.

The material used in sewing coiled baskets is the twig of the *gaθar''a* 285 (which grows up the canyon, not near the village) or the cottonwood. The bark is scraped off and the wood split. The split sections are scraped to uniform width. They are prepared at leisure and coiled for storage [171] like those of the Pima.[4] When desired for use they are soaked in water. All coiled baskets are sewed on a three-rod foundation; all three rods being of the same size.[5] The ends of three peeled and scraped cottonwood twigs are mashed and tied in a knot. One end of the sewing element is passed under one rod (*djĭmĭd*) close to the knot. The rods are started in a spiral and the binder stitched around them into the center are ripe in October. It is not necessary to pick them before the first frost.[1] Unlike the Pima and Papago only the hook-like appendages of the pod are used: these are broken off before the black fiber is split from them. When dry they may be soaked in hot water. Two strips of the black coat are split off with the teeth, beginning at the tip; the remaining interior third is discarded. To reduce the strips to a uniform width, they are held between teeth and hand while a knife is scraped along their edges.

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[1] Cushing states that these trays are "coated with mineral asphaltum and earth", (a), 330. This is incorrect; no earthy substance is ever used. His mistake is natural since the ball of [illegible] tissue which is kept for the purpose looks very much like clay. The point is important, for Cushing's theory of the development of pottery from earthen linings for baskets, based on the Havasupai case, has been widely quoted, (b), 484-488. [114]

[2] I do not understand why the bottles are colored, unless it is intended that this coating color shows through the pitch which is subsequently applied.

[3] My notes are not explicit on this point.

[4] Kissell, Fig. 13.

[5] Bundle, single, or two-rod foundations are never used.

In decorating twined baskets the black strip is substituted for one or both white wefts, the latter being cut off short. One end of the black strand is caught between the two lower foundation rods of the coiled basket, sewing then proceeding as with the white strand. The ends of the introduced strands protrude somewhat on the unfinished face in both types of basket.

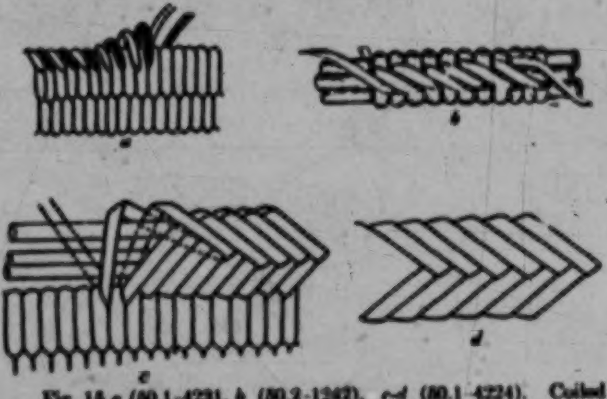

Fig. 15 a (50.1-4231), b (50.2-1242), c-d (50.1-4224). Coiled Basketry Edges. a, Two-strand edge of coiled basket; b, Three-strand edge of coiled basket; c-d, Edge of a coiled basket having the appearance of braiding (c, side view; d, view of the rim from above).

The rim of the coiled basket is finished by cutting off the three rods successively so that the coil will taper to an end. The rim is usually left without any further finish, but in a few specimens borders in other styles are added. The simplest consists of a diagonal over and over stitch with two strands (Fig. 15a). Apparently the binding is from left to right, working from the outside of the basket; that is, contrary to the

[1] Pima and Papago pick the pods before the frost turns them gray (Kissell, 202).

285 531 direction in which the coils were sewn. The binder stitch pierces the top coil between two stitches, returns toward the worker over the rim, and is inserted again between the second and third coil stitch beyond, thus alternating with the other binder strand. A second type of border is identical except that three strands are used (Fig. 15b). A third type (Fig. 15c–d) presents a braided appearance. In this case after the last coil was completed the three foundation rods were carried around for another row. The stitching on this is from right to left, working from the outside on the near wall of the bowl, that is in the direction in which the basket is coiled. A single binding strand is used in figure-eight fashion, the forward loop passing under all three rods and through the top coil, and the backward loop passing under the upper rod only; all stitches are diagonal. That is, the strand is brought down in front toward the left over all three rods, through the last coil, up to right in back, over the rim forward, down to right in front, through under the upper rod, up to left in back, and over the rim forward to repeat for the next stitch. The back loop crosses four forward loops.[1] Mason describes the same type of border stitch, but with only one lower rod and with the stitching from left to right.[2]

285 While the direction of weaving varies in these baskets, it has always the same motor basis, the actions of a right-handed weaver. At present there are no left-handed women whose peculiarity might affect the technique.[3] The direction of twine weaving is always from left to right, the active right hand ahead: that of coil weaving is from right to left, the active right hand following. Whether the coil is clockwise or anti-clockwise depends then on how the basket is held. In particular the change in direction on burden baskets, bottles, and coiled bowls results from the inversion of the fabric during the process. The resulting direc- [171] tion of the coil baskets agrees with that of other Southwestern tribes. These observations support Wissler's contention that tribal differentia [114] in direction are not based on physiological peculiarities, but are the subject of traditional habits. On the other hand, the apparent change in direction on a single basket suggests the necessity of a more refined analysis of types in determining their distribution. The desideratum is a record of the tribal hand positions.[4]

285 531 The decoration on Havasupai baskets is very simple. Twine baskets are decorated by contrasting bands of diverse stitches. Usually bands of

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[171] [1] This stitch is used as a method of fastening a Walapai basket in my possession, as well as one from the Aztec ruin and as a border of a bowl from the same place.

[2] Mason, (O. T.), (b), 270, Fig. 87. Compare Mathews, (b), 258.

[3] There is one left-handed girl and one man.

[4] Wissler, (a), 494–501; Kroeber, (g), 49–51.

285 531 right hand of the weaver twisting the wefts turns outward on the wrist (which is perhaps easier than turning inward), carrying the forward strand away and down, and the back strand forward and up. With the stiff wefts that are in use, each stitch inclines upward to the right both in the diagonal and plain twining. But more important is the overlap produced in diagonal twine of the rear end of each stitch with the forward end of that in the row below. This results in a diaper effect running upward to the right. This in itself would suggest that when decoration is introduced, the diagonal lines should move forward in the direction of weaving. Furthermore, there is no continuous diagonal line toward the left, for these stitches are separated from one another by short intervals of bare warp. Of course, it is no more difficult to weave the diagonal lines running toward the left, but the effect is not so pleasing.[1]

[177] It is difficult to say how coil baskets were decorated, since most of them are made now to conform to tourist demands. One tray in use has a single horizontal band, for the most part one coil wide but the width of two coils at regular intervals. Short lines appear at other points. The trade baskets have in part the designs found on twine wares, with the addition of units copied from the products of other tribes seen at the stores. As with the twine baskets, there is very little attempt at design composition and diverse units are crowded on the same basket without regard for their appropriateness. According to the Indians, baskets with much decoration sell better than others, but this is quite contrary to their own feeling that those which are sparsely decorated are preferable.

The hoods of the cradleboards (Fig. 55) and the seed beaters (Fig. 3) are also basket work.

POTTERY

323 415 [177] [171] Clay vessels, more often used in cooking than baskets, were displaced by metal products about 1870. The only native ware is a small, unslipped and undecorated, coarse, brown pot of the type common to all the nomadic tribes of the Southwest and adjacent sections of California (Fig. 16). The pot (*hamát*) is globular, with a slightly constricted neck turning out in a lip (ga', neck and lip?) sufficiently large to permit lifting with the finger tips. The size is reported as usually 30 cm. in greatest diameter 23 cm. in height, and 23 cm. across the mouth, but ranging down to a height of 22 cm. and a diameter of 12 cm. These lack handles or lugs.[2]

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[1] See O. T. Mason's diagrams, (3), Figs. 19 and 20.

[2] Fig. 16 represents a vessel excavated at the Laguna north of Pine Spring. It is of the type described, but it cannot be certainly ascribed to the Havasupai because of its somewhat greater size and handles.

281 [412] have been cut along each border of the neck, aids in stretching this tough section of the hide. Excess moisture is scraped off.

Tan has been previously prepared. Fresh deer brains are roasted 281 and mixed into a ball of yucca fiber. The raw marrow from the spinal 237 canal is mixed into another ball. After being dried on the coals, these will keep indefinitely. The brain is used before the marrow. The brain and marrow of a single deer is ample to tan its hide; half is sufficient, but if the skin is not soft enough, more must be used.

One of these balls is worked up in cold water into a soapy liquor. 281 Spraying mouthfuls of this over the hair side, as well as the flesh side at the ends, the skin is rolled up from the neck and tail inward. The legs which protrude from the double roll are wrapped around it to prevent drying out. After being set aside long enough for the tan to soak through, it is spread in the sun, hair side up, to dry somewhat. Now it is straightened, hung over a rail in the sun, and vigorously rubbed and pulled until soft and pliable. The seated tanner catching the skin under his feet stretches it in every direction. Rubbing and working with the fingers creates considerable friction which presumably melts the grease well into the pores. After a second working over the whole surface, it is laid flesh side up to dry in the sun. While rubbing the skin, at which [476] several friends may help, they sing:—

[539] Wátim'a wa'a'agadj ahåwamuhavi
(a hero's name) he walks up in the water (i.e., the Colorado).

ya'i'vu'i'wi'a'

This completes the tanning, which occupies the day. During the whole process care has been taken to prevent the white skin from being soiled, resting it on an old blanket or heap of leaves. Skins are traded while yet [438] a little stiff, i.e., without the final rubbing, presumably because the fineness of finish depends solely on the amount of labor one wants to expend on it—and this is left to the ultimate consumer.

If it is desired to stretch the skin somewhat, little slits are cut entirely around its edges, and it is buried in damp earth over night, and pegged out in the morning. Moccasins, etc., which stiffen after a wetting, [294] are similarly buried over night and worked pliable in the hands next day.[1]

Mountain lion and deerskins are also tanned with the hair on. The skin is fleshed, after a little water is blown over the flesh side to soften it. (It must never be soaked.) After brain tan is sprayed over the flesh

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[171] [1] The Navaho bury moccasins in the earth to make them pliable (Franciscan Fathers, [illegible]).

Campfires on the plateau are not banked at night, but heaped with sufficient wood to last until morning. 372

Ladles. These are said to be made of mountain sheep horn (*mukwá-vilí*) alone, although Cushing saw small wooden ladles.[1] The typical ladle (*mukwa'*) has a round, shallow bowl, 12 cm. in diameter, with a curved handle. A smaller dipper, 15 cm. long, has an oval bowl with a short handle (20ab). After the handle is hacked and trimmed to size, the horn is soaked and buried in wet sand from three to six nights or until it is fairly soft. The grease of the mountain sheep and the mountain lion are rubbed into the horn, which is warmed at the fire. The handle is then bent into shape. To form the bowl, the top of the horn is split, the sides wedged apart with a stick, and the edges trimmed. The bowl is filled with dirt, carefully propped up, and laid aside for a week to harden. As these are used to serve hot liquids, the bowl relaxes to its original shape. The Hopi, who take these ladles in trade, cut disks from them, which they flatten and bore for spindle whorls.[2] 321 415 [439]

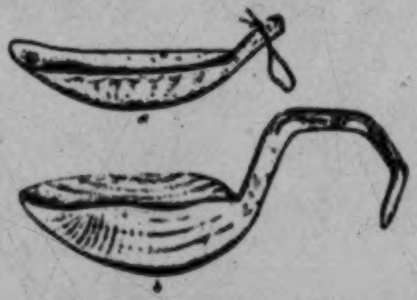

Fig. 20 a (80.2-1555), b (80.2-1217). Mountain Sheep Horn Ladles.

Gourds. Gourds (*á'ndle*), grown in the canyon, are infrequently used as water vessels. These are a long-necked variety, 25 cm. or less in diameter. The stem end of the neck is cut off square and stoppered with grass, crushed cedarbark, or a corncob.[3] A handful of kernels is placed in the new gourd and given an occasional shake to remove the loose fibers. 415

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[1] Cushing, (a), 350.

[2] Such ladles are widely distributed: Hopi and all other pueblos [Hough, (a), 279]; Paiute example in the Peabody Museum, Salem, Mass.; Wind River Shoshoni [Lowie, (b), 209.] [171]

[3] The Mohave use similar gourds to carry grain on journeys (specimen in Museum of Anthropology, University of California).

been drilled. Straightness is determined by sighting. The arrows are 411 322 next cut to proper length; for use with the self bow, from tip of forefinger to top of biceps; for the sinew-backed bow, from tip of middle finger to bottom of biceps. (This may apply to wooden arrows only). Reed arrows in the collection measure 75 to 76 cm., of which 15 cm. is foreshaft; willow arrows, 70 to 73 cm.; and boys' reed arrows, 72 to 77 cm. with 9to 12 cm. foreshafts. Willow shafts are trimmed with a knife—which like all knife movements is toward the body—and then rubbed [412] between two grooved gritstones (*palamdlia*) of pumice held in the hand. The shaft is a true cylinder of the diameter of arrow reeds except for a slimmer section where the feathers will be bound and for a flare at the nock. The nock (*padjdlaúigá*) is next cut; in a reed arrow this comes just above a joint. The foreshaft for the reed arrow is also willow, trimmed to size, about 15 to 20 cm. long, and pointed at both ends. After this is painted red, it is glued into the pith channel of the reed. The end of the shaft is then wrapped for 2 to 3 cm. with sinew, fastened with glue, to prevent it splitting. Finally the foreshaft is split to receive the arrowhead, which is wet in the mouth, glued in, and tied on with sinew, which is not, however, glued (Fig. 24b). It is prayed to that [782] it may stay tight. Many arrows, used for small game, have simply a sharpened foreshaft.

Stone arrowheads range from 3 to 6 cm. in length; the smaller are 411 324 placed on reed arrows, the larger on wooden shafts. These are triangular, with a deep, square notch in the base, and with the cutting edges reaching almost to the base. If an arrowhead tends to work loose, it is nicked well up the side to aid in retying. Stone heads were flaked on the heel of the hand with an antler tip cylinder. Bone or antler arrowheads are [321] not used. Blunt points for stunning small game are not manufactured, but a corncob may be placed on the point of the foreshaft for this purpose.[1]

Willow arrows are often decorated with one to three zigzag or wavy 411 531 grooves (*apdcd'ui'ga*) running the length of the shaft, representing lightning (*ritaI'djá*). These are made with a tool consisting of a wooden block with a groove across one face into which there protrudes the point of a knife thrust through from the back. The shaft is drawn through the groove, rocking it slightly, so that the point may trace a sinuous line.

The eagle and hawk furnish the best feathers for arrows; those of a 237 smaller blue and gray hawk and possibly other birds are also used. Young

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[1] It is curious that the metal points that are made have the [illegible] of rounded shoulders where the tang joins the blade which occur in early trade examples found in eastern United States. [171]

several days, being taken indoors at night; they require attention during 411
this period. As many as twenty or thirty arrows were kept at a time in quivers.

The best quiver (*n,ápùwd*) is made of mountain lion skin.[1] Only 281
rich men have these; poor men are satisfied with the hides of fawns or of 411
the young of mountain sheep. The tanned lion skin is folded lengthwise
hair side out and cut as shown in Fig. 26. The edges are turned back [556]
outside and sewed together with a running stitch. A circular piece of thick buckskin is sometimes sewed into the base (the nock) end, like the end of a can. A stick of the diameter of an arrow is placed in the longitudinal seam where it is bound in with an over and over stitch. The tail hangs free as an ornament. Thongs are attached at quarter points along the stick to suspend the quiver.[2] It hangs obliquely from the right shoulder, under the left arm, with its mouth pointing up and back. It is adjusted so that the midpoint comes at the waist, and a thong is tied about the body to hold the quiver close to the side.

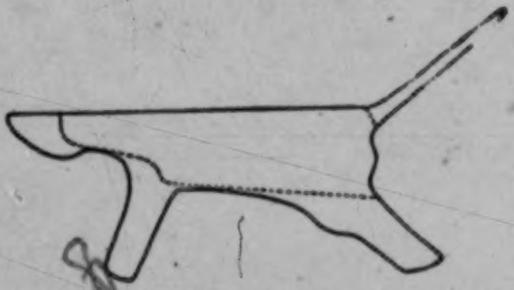

Fig. 26 (50.2-1601). The Pattern for a Mountain Lion Quiver. Based on the specimen shown in Fig. 23.

COMPARATIVE NOTES

The distribution of two types of basketry will be considered here, 171
the conical burden basket and the bi-conical water bottle. 285

Conical baskets are characteristic of California and the adjacent sections of the Great Basin and the Southwest. Without attempting to canvass thoroughly the literature and collections, I find it in California

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[1] The Navaho and Apache look on the mountain lion as a hunting god, and its skin is in demand for quivers (Bourke, (c), 438).

[2] An identical quiver from the Navaho is figured by Mason, (1), Pl. LXXIX, fig. 1. The use of mountain lion skins for quivers is quite widespread in the west, but it may not be universal. [171]

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among the Klamath, Modoc, Atsugewi, Achomawi, Maidu, Pomo, Lassik, and Chemehuevi.[1] Kroeber states that the Yumans of the lower Colorado do not make basketry and his paper on Mission basket decoration does not figure conical carrying baskets.[2] Furthermore, we know

[102]

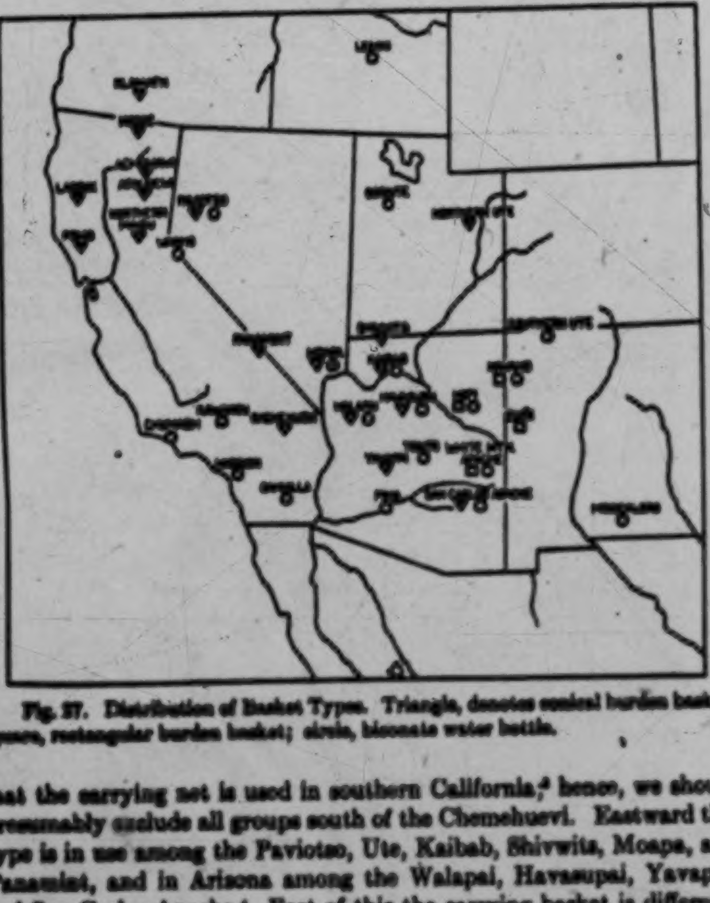

Fig. 37. Distribution of Basket Types. Triangle, denotes conical burden basket; square, rectangular burden basket; circle, biconate water bottle.

that the carrying net is used in southern California;[3] hence, we should presumably exclude all groups south of the Chemehuevi. Eastward this type is in use among the Paviotso, Ute, Kaibab, Shivwits, Moapa, and Panamint, and in Arizona among the Walapai, Havasupai, Yavapai, and San Carlos Apache.[4] East of this the carrying basket is different.

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[1] Barrett, (a), 250; Dixon, (a), 214; (a), 180; Mason, O. T., (g), 487-488; Kroeber, (g), 62.
[2] Kroeber, (q), 54; (m).
[3] Spier, (c), 343.
[4] Lowie, (i), 225-227; Powell, 128; Dutcher, 378; Curtis, 11, 90; Dorsey, G. A., (h), 196; Corbusier, 330; Hrdlička, (d), 484-485.

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The Hopi, Zuñi, and Navaho are credited with a type that is square, flat-bottomed, and built up on a *framework* of two bent sticks. The Western Apache have an analogous form, but without the sticks. The Pima and Papago have an unusual carrying device of netting on a frame.[1] Its conical form suggests the conical basket under consideration; its general structure the carrying net of southern California. North of California the burden baskets are not conical, I believe. The data cited above suggest a continuous area of distribution of this type. There are obvious local differences, however. For example, open twined weaving is not used in this connection in Arizona though it occurs in the Great Basin and perhaps in California.

The water jug is commonly biconate and with a small mouth like that of the Havasupai. It is in all cases, except the Washo, coated with pitch and provided with two loops of hair on the sides to take the carrying band. This type of basket is in use among the Northern Shoshoni, Gosiute, Southern Ute, Paviotso, Washo, Moapa, Kaibab, Kawaiisu, Chumash, Mission, Cahuilla, Walapai, Havasupai, Tonto, White Mountain and San Carlos Apache, Mescalero, Pima, Hopi, and Navaho.[2] It does not occur on the lower Colorado River, among the Salinan,[3] nor, I think, elsewhere in southern California. Hough reports that the Hopi obtain these baskets from the Apache, Ute, and Havasupai; Hrdlička that the Navaho get theirs from the Ute. There is some question whether the Cahuilla make such baskets. For the Gosiute and Washo these are seed baskets.

There are local differences in the technique and the shape of the neck and base. Southern Ute, Navaho (?), Hopi, and some Moapa specimens are in coil technique; Paviotso, Washo, Moapa, Cahuilla, Walapai (?), and Havasupai are in twine. The twined vessels have conical bases, as a rule, even with the reverse curve which produces a nipple-shaped point, so that this feature seems really to be a function of manufacture by twining. Some vessels have funnel-shaped necks with wider mouths (Northern Shoshoni, Southern Ute, Navaho, White Mountain Apache). The Ute and Navaho examples are coiled, which is also the case with the Moapa pieces of this shape.

The decorations on coiled baskets and twined burden baskets and trays of the Paviotso, Moapa, Yavapai, and Walapai bear definite re-

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[1] Mason, O. T., (a), 482-485; Franciscan Fathers, 307; Russell, [illegible].

[2] Lowie, (a), 179; Chamberlin, (b), 241, 243, 374; Lowie, (c), 237, 301. Washo, Kawaiisu, Chumash, and Mission specimens in Museum of Anthropology, University of California. Kroeber, (g), 44; Russell, 410; Curtis, I, 21; Hodge, 160; [illegible], (b), 21, 1906; Hough, (a), 243, 266; Mason, O. T., (a), 469; (b), 114; Hrdlička, (a), 242; Spalding and Wooton, 32.

[3] Mason, J. A., (a), 148.

171 285 semblances to those of the Havasupai. Martynia as a decorative material is used by the Pima, Papago, White Mountain and San Carlos Apache, Yuma Apache,[1] Yavapai, Havasupai, and Shivwits.

171 323 Pottery has an extensive distribution among the historic peoples of the Southwest. It extends throughout southern California and through the center of the Great Basin as far as the Salmon River in Idaho. In addition to the Pueblos, it has been found among the Northern Shoshoni, Uintah and Southern Ute, Navaho, Jicarilla, White Mountain and San Carlos Apache, Havasupai, Walapai, Yavapai, Pima, Maricopa, Kwohatk, Papago, Opata, Seri, Yaqui, Cocopa, Yuma, Mohave, Southern Diegueño, Luiseño, Cahuilla, Chemehuevi,[2] Moapa and Shivwits Paiute, and the southern Sierra Yokuts and Mono.[3] Whether it was manufactured by the Serrano and Salinan is doubtful. There is positive evidence that within this area it was not made by the Wind River Shoshoni on the one hand and the Paviotso on the west, nor by the Tonto Apache, Gabrielino, and Chumash.[4]

The pottery of this whole group is scanty and crude in comparison to that of the Pueblos. It is generally a rough brown unslipped ware, commonly undecorated. The Mohave and Pima form an exception, for they have the ware not only in quantity, but with considerable finish.[5] In general the pottery of the lower Colorado tribes and those adjacent on the Gila and in southern California is a somewhat specialized product. The body color is reddish, decorated with darker red, black, or yellow lines. Pima and Maricopa ware is cream colored, but in general of the same sort. Ornamentation is by angular figures, parallel lines, triangles, etc., always in the same general style. This is common to the Mohave, Cahuilla, Yuma, Southern Diegueño, Papago, and probably some of their neighbors. Pima decoration is sometimes more involved, being in part in imitation of the prehistoric wares of the Gila Valley. But the character of line at least is quite like that of their western neighbors. Navaho pottery is decorated by incising and painting; the style is unknown to me.

The shape of the larger vessels is much the same among all the rancheria groups; globular ollas with either slightly restricted mouths or with wide necks tapering directly up from the greatest diameter of the

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[1] Mason, (a), 183.

[2] Kroeber, (g), 546. Yet in another place it is implied that the Chemehuevi did not make pottery [Kroeber, (l), 242].

[3] Lowie, (a), 177; (b), 235 f.; Stephen, 262; Franciscan Fathers, 216, 286, 289; Curtis, I, 20, 34, 82; [illegible]; Russell, (c), 124–131; [illegible]

[4] Kroeber, (g), 63, 64; Mason, J. A., (a), 143; [illegible], 418.

[5] Their pottery may be slipped like that of the Pueblos, but I can find no reference to this in the literature and doubt it.

pot at its middle. This is illustrated for the Pima, Yavapai, Havasupai, 171
Mohave, Cahuilla, and Southern Diegueño. Navaho jars are taller 323
and narrow; San Carlos are said to be cylindrical with round to conical bases. Shivwits pottery is also pointed at the bottom.

Perhaps corresponding to the Havasupai custom of cooking cornmeal mush in the new vessel, the Cocopa cook it, smear it on the vessel, [252]
but throw it away,[1] while the Pima and Papago pour flour paste inside and out of the red hot pot, and the San Carlos coat it with a mixture of clay and *sphaeralcea emoryi*.

The Havasupai pipe is exceptional in having a reed stem fitted in 171
the side of a clay bowl. The nearest form is that of the Diegueño which 276
has the clay of the bowl pinched out at a sharp angle into a short stem.[2] This would appear to be merely a bent tubular pipe were it not for a nipple below the bowl which is suspiciously like that of our own clay pipes. Elsewhere in the Southwest and California the tubular pipe is used; e.g., Navaho, Western Apache, Jicarilla, Luiseño, Washo, Achomawi, and Atsugewi.[3] It is interesting to note that the older pipes of the Cheyenne were straight tubes of bone or stone.[4]

Skins are dressed by the Navaho by a process practically identical 171
with that of the Havasupai. Descriptions from other tribes are so meager 281
that I do not know how far details are similar. Some of the Southwestern tribes at least do not smoke the skins, (Navaho, Havasupai, and Shivwits), others to the north do (Moapa—for whom it is a recently acquired trait,—Kanab, Uintah, Wind River Shoshoni, Paviotso, Achomawi, Klamath and Modoc).[5] Smoking is also general north of the Basin and eastward in the Plains.

Skin dressing is wholly the work of men among the Havasupai, as 171
among Navaho, Yavapai, and Cocopa also. Zuñi men do all the sewing, 281
and as is also customary in other pueblos (Cochiti, Hopi, e.g.) make the 462
moccasins. In this connection we note that Paviotso men make their rabbitskin blankets.[6] On the other hand, skin dressing and working is a woman's task in the Plains, which suggests that in the Southwest the Pueblo idea of men weaving garment materials has been transferred to the preparation of skins by men of these tribes.

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[1] Field notes of R. H. Lowie.

[2] Spier, (c), 318; Heye, (d), Pl. XI, Fig. 20.

[3] Franciscan Fathers, 287, 303; Matthews, (f), 314; Whipple, Ewbank, and Turner, 47; Russell, (a), 287; Sparkman, 232, 210; Washo data from Doctor R. H. Lowie, 1926; Dixon, (e), 214. J. A. Mason states that the Salinan and Yokuts used reeds, not clay or stone, but elsewhere he speaks of the Salinan "pipe" ((a), 142, 182).

[4] Grinnell, (b), I, 208.

[5] Shufeldt, (b); Lowie, (l), 226ff.; Mason, O. T., (e), 573.

[6] [illegible], 232; Stevenson, M. C., (b), 371; Dumarest, 140; Hough, (d), 70, 72.

171 372 Most Southwestern peoples, like the Havasupai, use a simple fire-drill, a single piece of wood. The composite drill, having a short fore-shaft of wood of a special sort set in the end of the drill, occurs in this area among the Navaho. The Hopi use it at least in their New Fire ceremony. Northward it is distributed among the Paviotso, Klamath, Modoc, Washo, Lemhi and Wind River Shoshoni, Crow, Green River Salish, and Snohomish or Snuqualmi.[1] The materials used might be compared. I note that the Havasupai use the flower stalk of bear grass for the hearth, the White Mountain Apache that of *Yucca baccata*, and the Navaho a soft stalk of a large weed. The Shivwits, like the Havasupai, use mesquite for the drill. With regard to the pits on the hearth, the Paviotso prescribe four as the standard number. Similarly of the Navaho hearth, it is said "small holes, sometimes four in number, were cut into it,"[2] and one Havasupai specimen (50.2-1224) has four holes, but this was not specified as standard for them. The Shivwits made pits all along the hearth. It may be that we have here a diffused trait; on the other hand, it may be nothing but an expression of the pattern number, four, obtruding itself on every occasion.

The slow-match, a long roll of cedar or sagebrush bark, is widely distributed through the western plateaus. It is used by the Havasupai and by the Navaho according to them (p. 226), Hopi, White Mountain Apache (?), Wind River and Lemhi Shoshoni, Klamath, Modoc, Thompson, and Nisqually.[3]

285 171 Bark mats or blankets may be in general use throughout the plateaus. The smaller Havasupai type, woven spirally, is also found among the Navaho.[4] Reed mats are used instead by the Pima, Luiseño, Northern Shoshoni,[5] and Maidu.

171 411 237 As Mason and Wissler pointed out years ago the sinew-backed bow is found throughout the western plateaus, in the western Plains, and on the Pacific slope.[6] The following notes will help to define its range with greater precision (Fig. 28).

In the Southwest it is used by the Mescalero, Jicarilla, Southern Ute, Navaho, White Mountain Apache, and Havasupai.[7] There is a prehistoric sinew-wrapped bow from southern Colorado in the Museum

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[1] Hough, (v), 565; Fewkes, (d), pl. 3; Lowie, (f), 232; (a), 180; (h), 214; Hough, (a), 536-542; Barrett, (a), 257; Haeberlin und Gunther, 18. Washo information from Doctor R. H. Lowie, 1926.

[2] Franciscan Fathers, 63.

[3] Hough, (a), Pl. 25; Lowie, (f), 232; (a), 180; Chamberlin, (a), 86; Barrett, (a), 257; Teit, (a), 267; Haeberlin und Gunther, 16.

[4] Franciscan Fathers, 467.

[5] Russell, (d), 124; Sparkman, 210; Dixon, (a), 142; Lowie, (a), 184.

[6] Mason, O. T., (f); Wissler, (a), 159.

[7] Pattie, 164; Goddard, (b), 261; Hough, (a), 297; Letherman, 293; Mason, O. T., (f), 640, 658, Pl. 78, Fig. 3; Dorsey, G. A., (b), 168; Bourke, (b), 57.

[Text continues on p. 160]

1: Spier E-5 (1918) 1928
NT14 Plateau Yumans NT14
Havasupai

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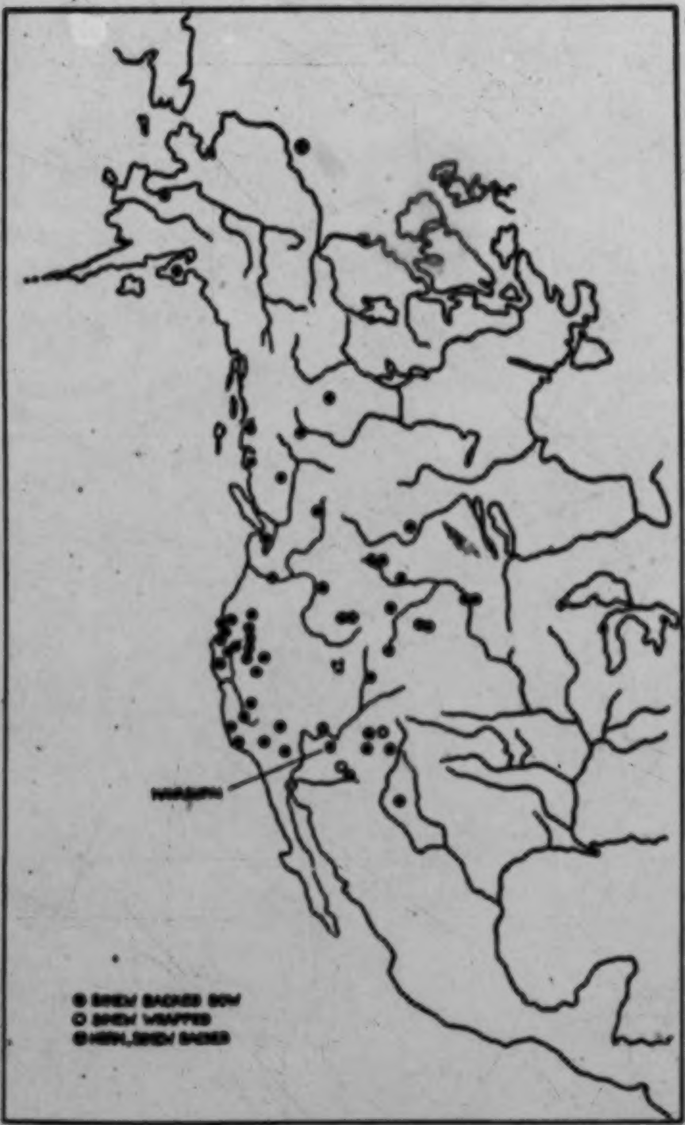
HAVASUPAI
● SINEW BACKED BOW
○ SINEW WRAPPED
● HORN, SINEW BACKED

Fig. 28. Distribution of the Sinew-Backed Bow in North America (omitting Eskimo types).

171 of Anthropology, University of California (2-3342). The Tonto have a bow "strengthened at points by a wrapping of sinew," and that of the
411 Yuma is also wrapped with sinew.[1] In California and the adjacent part
237 of the Basin the sinew-backed bow is used by the Chemehuevi, Panamint, Kitanemuk (Tejon), Salinan, Yokuts, Wükchumni, Washo, Paviotso, Northern Maidu, Yana (?), Northern Wintun, Eastern Pomo, Atsugewi, Achomawi, Hupa, Yurok, Rogue River peoples, Modoc and Klamath.[2] According to Kroeber this occurs generally in California south to the Tehachapi Range, including the Panamint and Yokuts and a single specimen attributed to the Chumash. The Cahuilla, the Northern and Southern Diegueño did not have the sinew-backed bow, nor did the Hopi, and perhaps Shivwits and Uintah.[3]

To the north and east this form is recorded for the Northern Ute, Lemhi, Crow, Blackfoot, Gros Ventre, Plains-Cree, Cheyenne, the Sioux of Montana, Hidatsa, Takelma, Wishram, Wasco, the natives of Port Discovery on Puget Sound, Middle Columbia Salish, Shuswap (?), Chilcotin, Carrier, Sekanai, Ts'ets'aut, Kenai, and the Tinneh of the lower Yukon River.[4] Mackenzie observed the bow in what is probably Bella Coola territory.[5] Another type, consisting of joined pieces of horn and backed with sinew is known from the Kaibab, Wind River[6] and Lemhi Shoshoni, Cheyenne, Hidatsa, Blackfoot, and Nez Percé. Some of those referred to above may be of horn rather than of wood. The data used here are not sufficient to distinguish between the wide bows of the Pacific slope and the slender variety of the Basin and Plains, as O. T. Mason does.

The Eskimo have still another form of the sinew-backed bow, which commonly has a cable of sinews extending along the back. This is known from Baffin Land to East Cape, Siberia. The trussed bow is also credited to the Navaho by the Havasupai. Compound bows are widely distributed in Siberia and other parts of the Old World.

There is some suggestion that the length of self bows increases in
411 the direction of Baja California. The relevant data (chiefly approxima-
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[1] Smart, 418; Trippel, 378.

[2] Whipple, Ewbank, and Turner, 33; credited to the Chemehuevi by the Southern Diegueño [Spier, (d), 350]; Coville, 360; Mason, O. T., (f), Pl. 63, Figs. 2, 3, 4; Pl. 92; 675; Mason, J. A., (a), 142; Powers, 373; Barrett, (b), 16; Lowie, (i), 245; Snyder, 317; Dixon, (a), 202; Pope, 330, 341, Pl. 52, Fig. 2; Pl. 46, Fig. 13; 337, Pl. 47, Fig. 3. Pomo data from Dr. Edwin Loeb; Wükchumni from Miss Ann Gayton. Dixon, (c), 313; Barrett, (a), 248; Quarterly Oregon Historical Society, 7, 1906, 179.

[3] Kroeber, (g), 88; Spier, (e), 350; Lowie, (i), 245.

[4] Culin, (a), 98; Lowie, (a), 175, 191; Thwaites, III, 19-20; Lowie, (g), 230; Wissler, (a), 155, 159; Kroeber, (h), 150; Skinner, 83; Grinnell, (b), I, 174. Pope, Pl. 48, Fig. 14, 340; Sapir, (c), 272; Mason, O. T., (f), Pl. 62, Figs. 2, 3; 676, 677; Teit, (a), 518, 782; ms. on Middle Columbia Salish; Morice, (b), 28, 30; Russ, (b), 583; Wasco specimen, Field Museum no. 60401.

[5] Mackenzie, II, 311.

[6] Powell, 128; Lowie, (i), 246.

tions) at hand are: Maidu, 1 m., Salinan, 91 cm., Havasupai, 91 to 112, 411
Western Apache, 163, Yavapai, 137, Mohave, 122 to 182, Pima, 135, 171
Cahuilla, 122 to 137, Luiseño, 152, Southern Diegueño, 100 to 120, Cocopa, 182 to 243, Pipi[1] and Lower California Indians, 182, and Pericues, "long."[2] The exception here is the Southern Diegueño.

Mohave, Navaho, and Southern Diegueño bows at least are cut from the wood in the same way as the Havasupai. That is, the rounded [322]
back of the bow is the exterior of the tree limb, the interior is cut flat giving a trapezoidal cross-section. This may not be general.[3]

The Navaho use the same bowstring hitches as the Havasupai and also attach a length of buckskin to the string. The bowguard or wrist protector is widely used. In this area it is recorded for the Yavapai, Tonto, Havasupai, Navaho, Hopi, Mohave, Pima, Southern Diegueño, Paviotso, and Northern Shoshoni.[4]

The arrow wrench may be quite widely used. O. T. Mason ascribes 171
it to the Plains Indians, the West Coast tribes, and the Eskimo. I have
found it recorded among the Navaho, Ute, and Cheyenne,[5] as well as the 412
Havasupai. This is a mountain sheep horn. The Hopi use antelope or 321
goat horn[6]; the Cheyenne bone also.

Reed arrows are apparently restricted in the Southwest and California to the tribes in the direction of the lower Colorado River. The 411 171
Yavapai, Tonto, Pima, Cocopa, Pipi, Seri, and the Indians of Baja California seem to use only reed arrows[7]; wooden ones are also used by the Navaho, Havasupai, Western and Mescalero Apache, Mohave, Yuma, Cahuilla, Panamint, Luiseño, Southern Diegueño, and Maidu.[8] All other tribes mentioned in the second paragraph below apparently have wooden arrows only. The Havasupai and Luiseño favor the reed, the Cahuilla the wooden arrow. It is interesting that the Paviotso make a wooden arrow with a separate foreshaft in the manner of a reed arrow.[9]

There is also a suggestion that arrows from the lower Colorado and Baja California are longer than elsewhere. This might be expected from

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[1] A group one hundred miles below the mouth of the Gila and below the Cocopa (Pattie, 201).

[2] Dixon, (c), 202; Mason, J. A., (a), 143; Bourke, (b), 37; Whipple, Ewbank, and Turner, 30; Russell, (d), 96; Kroeber, (g), 58; Sparkman, 205; Spier, (c), 320; Chittenden, 204; Sargent, 292; North, 228.

[3] Pope, 258, Pl. 46, Fig. 2; 257, Pl. 47, Fig. 7; Spier, (c), 320.

[4] Corbusier, 283; Smart, 418; Stoddard, (a), 734; Franciscan Fathers, 319; Hough, (a), 240, 288; Whipple, 114; Russell, (d), 103; Spier, (d), 355; Lowie, (i), 245, (n), 192.

[5] Franciscan Fathers, 318; Mason, O. T., (f), 893; Grinnell, (h), I, 179.

[6] Hough, (a), 278.

[7] Whipple, 98; Smart, 418; Russell, (d), 96; Heintzelman, 43; Pattie, 201; McGee, 187; Sargent, 292; North, 228.

[8] Franciscan Fathers, 182, 319; Mason, O. T., (f), 880, 881; Pattie, 164; Triggs, 370; Kroeber, (d), 80; Coville, 369; Sparkman, 205, 208; Spier, (a), 334; Dixon, (a), 203.

[9] Lowie, (i), 244.

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the fact that their bows are longer, but the correlation is not close. Approximate lengths follow—:

	Wood	*Reed*
Maidu	82–87 cm.	
Havasupai	70–73	75 cm.
Western Apache		60
Mohave		very long
Pima		78–85
Luiseño		90
Southern Diegueño	60	74–80
Seri		65
Baja California		95–120
Pericues		90+

Wooden arrows sometimes have shallow longitudinal grooves running along the shaft; these are usually wavy or zigzag. O. T. Mason states that "the Eskimo do not make them, neither do the Northwest Coast Indians. Athapascan, Shoshonean, Siouan, Kiaowan tribes are especially given to this practice."[1] The distribution of this feature is wide, but more restricted to a definite area than Mason's generalization would imply. Such grooves are generally used in the Southwest, in the Basin and northern California, and throughout the Plains, but I have found them nowhere else with the exception of the Western Déné. In addition to the literature, I have examined the collections in the American Museum of Natural History and the Museum of Anthropology, University of California, with some care, and somewhat more casually those in the Field Museum, United States National Museum, Museum of the American Indian, Washington State Museum, and the Provincial Museum, Victoria, B. C. It occurs among the following tribes: Yuma, Mohave, Havasupai, Hopi,[2] Zuñi, Western Apache,[3] Navaho,[4] San Ildefonso, Taos, Picuris, Mescalero, Southern Ute and those of Utah, Wind River (?) Shoshoni, Snake of Idaho, Maidu,[5] Wintun, Achomawi, McCloud River, Shasta, Hupa, Yurok, Klamath,[6] Wasco,[7] Rock Creek Sahaptins,[8] Nez Percé, Blackfoot, Western Déné,[9] Crow,[10] Cheyenne

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[1] Mason, O. T., (f), 668.
[2] Hough, (c), 249.
[3] Mason, O. T., (f), 684.
[4] Franciscan Fathers, 318.
[5] Dixon, (a), 202.
[6] Mason, (f), 678.
[7] Field Museum, no. 60491.
[8] Washington State Museum specimens 5793 and 5795.
[9] Morice, (b), 54.
[10] Lowie, (h), 230.

[Text continues on p. 164]

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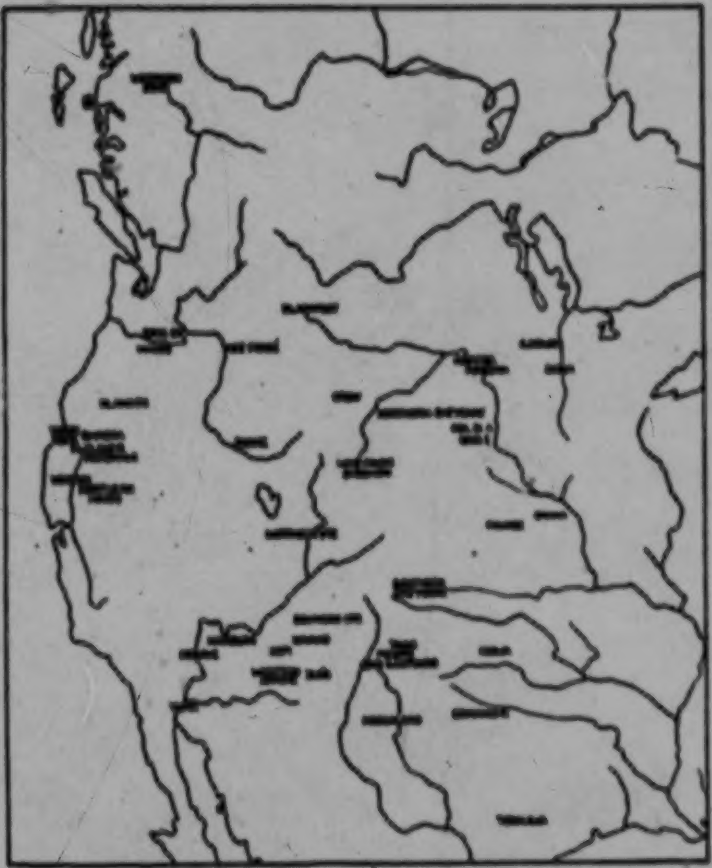

Fig. 20. The Distribution of the Grooved Arrowshaft.

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(both northern and southern groups),[1] Hidatsa, Mandan,[2] Oglala, Brûlé, and other western Sioux, the Sioux of Devil's Lake (Minnesota?), Ojibway of Dakota, Omaha,[3] Pawnee,[4] Kiowa, Comanche, and Tonkawa[5] (Fig. 29).

These grooves range from zigzag to straight lines. While my notes are not sufficiently complete for certainty, there is a suggestion of regional specialization of this feature. That is, Tonkawa, Comanche, and Kiowa examples are straight or nearly so; the others, where we have information, are wavy (Nez Percé, Wasco, Snake, Maidu, Ute, Havasupai, Navaho, Hidatsa, Mandan, and Ojibway). Cheyenne arrows have a straight groove on one side, a zigzag on the other. That from the Sioux of Devil's Lake is straight, but others from the Sioux figured by Mason are wavy or zigzag.

Several explanations are offered: they represent lightning to the Navaho, Havasupai, and Mandan;[6] blood channels to the Western Apache and Pawnee. The last also say that the grooves cause the arrow to adhere to the wound. Those of the Western Déné and Klamath are also styled blood gutters, but I am not sure that the Indians call them that. The Omaha explain them as a device to prevent the arrow from returning to its natural bent, an explanation accepted by Grinnell in connection with the Cheyenne, but the grooves are so shallow, the merest traces, that it is difficult to see how they could function, if a longitudinal groove would serve at all. This seems nothing but a rationalization, not different from the blood-channel explanation.

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[1] Grinnell, (b), I, 180.
[2] Mason, O. T. [illegible]
[3] Fletcher and La Flesche, 448.
[4] Mason, O. T. [illegible]
[5] Mason, O. T. [illegible] XLIV, 6; XLV, 3, 4, 6; XLVI, 3, 4; XLVII, 3, 4; [illegible]
In these museum collections are arrows from other localities lacking the grooves: [illegible] Pima, Yokuts, and Shoshone. To which [illegible] may be added, according to Mr. [illegible]
[6] This may be Maximilian's explanation, not that of the Mandan.

MEASUREMENTS, TIME RECKONING, DIRECTIONS, AND COLORS

A number of measurements are in use. These have no names. The finger span, from the tip of the thumb to the tip of the middle finger, and the hand length, from the tip of the middle finger along the palm to the wrist, are used in measuring arrow foreshafts, for example. Finger width, that is of the first two fingers, gives the width of a bow. The arm length, from the tip of the middle finger along the inside of the arm to the shoulder joint, gives that of the arrowshaft. The span of the arms, i.e., between the outstretched hands, is used to measure buckskins, the excess being measured in finger spans. The half arm span, from the sternum to the finger tips, is half the length of a bow. Steps are used in measuring houses, etc. Formerly the foot length was not in use. The Hopi use the forearm to measure the length of ears of corn when trading, but the Havasupai make no use of this measurement. 804 [171]

By way of a device for laying out lines, for example, in making a woman's dress, the bow is used: the back furnishes curved lines, the string straight ones. [294]

I have not observed that the fingers or other objects are used in counting. Of course counters are used in certain games, but not because they cannot reckon without them. Beside the numerals given below,[1] fractions (at least a half) are named. 802

1 sit'à
2 xuwágà
3 hàmogà
4 hop'à
5 θàt'àpà
6 taspė'
7 xuwagaspė'k
8 humagaspė'k
9 halθθila
10 viwa''avá
20 wavàhuágà or xuágàvuwágà

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[1] See also Harrington, (a), 294.

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The list is apparently incomplete and garbled, yet I have attempted to give the approximately corresponding months in our calendar on the basis of the dating of the constellations and the descriptions of the seasons.

It is obvious that twelve names cannot do duty for not quite thirteen lunations and it is manifest that the Havasupai do not attempt the impossible. I was told that these are not intended to coincide with the lunar months and that the days are not counted. It seems that what I [171] found true of the Southern Diegueño applies here: that these Indians are interested only in designating a series of periods without attempting to fix their limits, and those periods are roughly the lunations, the names of which are variable and frequently in doubt. The only certain months are those fixed by the appearance of the several star clusters, and these all occur at the beginning of the Havasupai year. There can be no question here of intercalation of the thirteenth lunation in a twelve name series.

There is some suggestion that the months begin with the full moon.

Month	*Began*	*Full Moon*
1st–1917	Middle of November	Nov. 28, 1917
1st–1919	Nov. 4, 1919	Nov. 7, 1919
3rd (or 2nd)– 1919	Dec. 12 or 13, 1919	Dec. 7, 1919
4th–1920	Feb. 6, 1920	Feb. 4, 1920

The solstices are recognized. Sinyella has a definite place where he stands to observe both solstices at sunrise. Presumably the other fixed points are pinnacles, etc., on the canyon walls. (Normally the canyon is deserted in mid-winter.) The winter solstice (*n‚avōkig*, coming back) occurs when the moon is half full. Sinyella fixed this as December 30, 1919. The summer solstice is *inyákin‚an‚náwaha*, the sun is home. I did not learn of any rituals connected with these dates.

Time is indicated chiefly by the position of the sun.

n‚imidʹa'vumá	day time
inya''dji'ágigá	sun barely risen
inyá'tapívigigá	sun risen half way
inyá'vīluwivigá	noon (sun in the middle[1])
inyáḱtepívigá	sun halfway down
inyátā'pmigá	sun fallen out of sight
naták'ópigá	night
naták'ópvīluwivigá	midnight
dju'va‚məavám igyafim	before the dawn
halávāū'pigigá	dawn.

[773] The moon (*halá*) is a man or a man's head. A myth also describes it as a disk chipped out of ice.

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[1] Or the sun making no progress: compare a'luvīluwivigá, horses racing nose to nose.

A knotted cord or quipu (*dütruwidjigà*) is used to add formality to 805
an invitation to another tribe or in accepting an invitation from them. 211
The cord, which is carried by the messenger, contains a knot for each
sleep which will elapse before the meeting. One knot is cut off each 648
night: the last one, which is by itself at the end of the cord, represents the meeting. Thus the Havasupai sent one, made by the reservation policeman, to the Navaho at large by a member of that tribe. This had seventeen knots and referred to a dance held in September, 1919. Two instances of quipus brought by Walapai were noted; both invitations of local chiefs to mourning ceremonies. On August 26, 1921 a Navaho, who was not a chief, gave one with ten knots to Supai Jack, a prominent man, with the information that the Navaho would arrive at the Havasupai village in the afternoon or evening of September fourth.

These are not used as mnemonic devices, nor do they use notched sticks in this way.

A family may keep track of the return of a traveler by marking on a 211
stone or post, erasing a mark for each sleep as it elapses.

Six directions are recognized: the four cardinal points, the zenith, 823
and the nadir.

north	mátávigà
west	nyalópevī (sun's setting place)
south	hávévigà
east	nyádjà'ákvē (sun's rising place)
zenith	amidvigà or hmiatávigà (middle of the sky)
nadir	matvidià or ámōtávigà (middle of the ground)

The place where the speaker is (ámōtátu"waiyū'g, ground where I am), is not considered a direction. In naming the directions they are given in the order north, west, south, and east.[1] There is no color-direction 822
association.

Color terms are as follows:— 151

hnyágà or hnyádj	black
hnyamígà	brown
áhwō'tigà	red
gwalasígà	pink
ágwáðīg	yellow
nylmaā'và	white
vasúwà	blue-green
vahasígà (?)	blue
vahasūtávigà	green

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[1] The Navaho order is east, south, west, north, zenith, and nadir (Franciscan Fathers, 53; Stephen, 64, 369); that of the Hopi north, west, south, and east (Fewkes, (a), 23). That of the Pima in lighting a funeral pyre is south, east, north, and west (Curtis, II, 73). The San Carlos Apache circuit is like the Navaho, east, south, west, and north (Goddard, (f), 7.) [171]

822 151 The familiar blue-green confusion occurs here, but the Indians of course recognise and designate the difference between the colors whenever the occasion requires. Spotted (s,ádígə) and variegated are not colors.

Comparative Notes

● 171 805 The beginning of winter (mid-November) as the initial point of the Havasupai calendar has its counterpart throughout the Basin, Plains, and the interior of British Columbia, according to Cope's summary.[1] In this vicinity, the Navaho year begins about October[2]; the Yavapai in September, and the Southern Diegueño in September or November.[3] This extends the distribution of this type further south. On the other hand the calendar turns on the solstices in the Pueblos and in southern California.

✗ The month names are in general descriptive as in most North American calendars. Unlike the Hopi, Hano, Zuñi, and Southern Diegueño, these are not divided into two series of six repeated names.

171 821 Some suggested identities among the constellations recognized by tribes in this area follow[4].

Luiseño	*No. Diegueño*	*So. Diegueño*	*Yuma*	*Mohave*	*Yavapai*	*Havasupai*
		Hand (5 stars) Begins year November or September				Hoop (5 stars) (Month name, Hand + to come) Begins year November
		Buzzard (in third month) January or November				
		Ciłák (in fourth month) December?				Coyote (in second (month) December
						Cold star (Perseus?) February

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[1] Cope, map 5.

[2] Franciscan Fathers, 35.

[3] Corbusier, 330; Spier, (c), 347. Cope classes the Yavapai case (called Tonto), marked by seed-gathering in September, with the harvest or summer type of calendar beginning, but seed-gathering belongs with the winter round of activities in this region. The Diegueño case is classed with the solstitial type, but there is no authority for this. Their year begins in September (or November, see below) when the weather turns sharp.

[4] Du Bois, (a), 162, 164; Waterman, footnote 93; Spier, (c), 310, 347; Trippel, 378; Corbusier, 328.

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Hulaish or hula'-chum	Mu or amu, mountain sheep	Amu, mountain sheep	A-mus	Amu, mountain sheep	Mu-'a, mountain sheep
(3 stars)		(3 stars)	(3 stars)	(3 stars)	
(Orion)	(Orion)		(Great Bear)	(Orion)	(Orion's belt)

The Southern Diegueño *Hand*, a group of five stars, appears in the morning and marks the beginning of the year, in all of which it corresponds to Havasupai *Hoop* (Fig. 30a). A further identity lies in the name of [805] the first Havasupai month, *hand+to come.* This suggests either that the correct name of their constellation is *Hand*, that the name has been borrowed and used in a new sense, or that this is an old name for the month common to the two, the Diegueño having changed their designation or the Havasupai their constellation. At first sight the greatest discrepancy is that the Diegueño date is September and the Havasupai November. But my Diegueño information was confused, while Gifford obtained November as the initial month from the same informant. I [114] think there can be little question then of the identity of the constellations and the correctness of Gifford's calendar. A confirmation of this solution appears if Luiseño Nukulishpo-ma, his hand, refers to the same star or constellation. This is Arcturus, by Kroeber's identification,[1] a star which rises in the morning in early November. Certainty is added by an identification of Diegueño Buzzard, which rises in the morning in the third month (January), with Luiseño Yungavi[illegible] buzzard. The latter Kroeber gives as Altair, which does rise in the morning in early January.

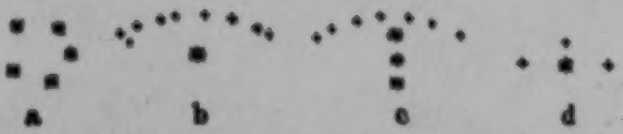

Fig. 30. Constellations. *a*, Hoop; *b*, Coyote and Pole; *c*, Cilúk (Southern Diegueño), *d*, Cold Star (from native sketches).

The configuration of Havasupai *Coyote and Pole* agrees with Southern Diegueño *Cilúk* (which I reproduce from my field notes). (Fig. 30bc) Furthermore both rise in December, if my Diegueño calendar is correct, which is unlikely. Nevertheless, the fact that the constellations figure [805]

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[1] *Handbook*, 686.

171 only in the early months of both calendars is presumptive evidence of
921 historic connection.
[905] There are some data on the identity of another group in this region. The Havasupai may know the cluster, but I did not record it. This appears to be the three stars of Orion's Belt, called *Mountain Sheep* by Yavapai, Mohave, Yuma, Southern and Northern Diegueño, and *Hulsish* or *Hula'chum* by Luiseño. I think Trippel is mistaken in identifying *A-mau* (presumably mountain sheep) with the Great Bear; there is no obvious triad in that constellation. Waterman doubtfully questions the identification of the Northern Diegueño group with Orion. Southern Diegueño *Mountain Sheep* is probably the same group, which makes it impossible for *Cilük* to be the Belt.

In our area the quipu or knotted string record is a formal accompani-
211 ment of an invitation to a gathering; one knot is cut off or untied for
905 each day that elapses until the event. Beside the Havasupai, Walapai,
171 and Navaho, this must have been in general use among the Pueblos for it figured in the Pueblo rebellion of 1680.[1] There is also a mythical reference to the device among the Zuñi.[2] The Miwok and the Northern and Southern Maidu have invitation strings identical with these.[3] The Huichol knot strings to keep count of days, untying a knot for each day elapsed. They also enumerate lovers by knotting cords.[4] As a mnemonic device the knotted string is also known to some Mission Indians, the Palonies (a subdivision of the Chemehuevi), the Klallam, Yakima, the Interior Salish of Nicola Valley, B.C., the Zuñi[5], and in a variety of forms in Peru. It is conceivable that this has a continuous distribution from Peru to Canada.

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[1] Bandelier, (b), 118; Hackett, 163.
[2] Cushing, [illegible], 17.
[3] Dixon, [illegible], 206, 271; [illegible], 44; Powers, 349.
[4] Lumholtz, [illegible], II, 130-131.
[5] [illegible], 23. Klallam information from Erna Gunther. Leechman and Harrington.

sleeper is free from troublesome dreams, will sleep soundly, and arise 513
refreshed. The head of the house or a guest would sleep anywhere he
chose. A man's personal belongings were hung over his bed. Food, 352
baskets, etc., were placed nearer the entrance; the food furthest from
it to guard against animals. If the house was high enough, a pole on
which to hang blankets and skins, was fastened across above man height,
but ordinarily this was placed at one side. Cooking is usually done [252]
outside.

Every camp has one or more shades which shelter the common 343
domestic activities, and in some instances serve in lieu of a summer house.
The shades are built in a great variety of forms; some, in fact, are quite
amorphous. The commonest is the rectangular flat-roofed type described
above: others are simply a slanting roof, like half a gable, a quarter
sphere, like half a dome-shaped house, a barrel vault, and so on. Most
are carelessly covered with brush, with dirt banked against them.
Ladders (two poles with rungs tied on) are often provided to reach the [417]
roof of a house or shade in order to replace the dirt covering, store
corn, etc. These are sometimes logs notched on one face. A cooking
shelter may be made of boughs set up in a semicircle before the outdoor [354]
fireplace, forming a breast-high screen.

There are a series of small caves and rock-shelters (*apä''ä*) along the 342
cliffs at the top of the talus slope which were used during inclement
weather, particularly in the spring, during floods, and the uncertain [731]
period when raids were frequent, for they were conveniently located for [722]
escape up the cliffs when the alarm was given. A breast-high wall of
rocks, laid dry, was built across the opening. Poles were set vertically
in the space above the wall, others were tied horizontally across these,
and the frame was thatched. A blanket partly covered the entrance,
the open space above it providing a smoke vent.

A little ring of brush is raised for a temporary camp. This serves at [417]
least to keep out animals and the blowing sand. The White Mountain [171] ●
Apache have a similar usage.

Innumerable storage houses line the ledges at the foot of the cliff 343
all along the canyon, standing high above the reach of floods. A stone
wall is built about the mouth of a natural enlargement in a crevice to
form a little house of a capacity of 3 to 5.5 cu. m. (Fig. 36). The wall is
carefully chinked and plastered with a hard mortar to render it rodent [333]
proof. This is made of guano, found in the crevices of the cliff, mixed
with dirt. A flat stone is set in the little entrance and sealed with mortar

343 Storehouses resembling the dome-shaped domiciles are sometimes built in the camps to hold the green foodstuffs.[1]

COMPARATIVE NOTES

342 171 The typical dwelling of the Havasupai, the dome-shaped, brush-covered structure, seems to be the prevalent type in a considerable area of Arizona and the Great Basin. It is true that most of the Arizona types are referred to as dome-shaped or hemispherical, while those of the Basin are described as conical. But we are dealing essentially with the same structure which seems to differ largely in the acuteness of its apex. As a matter of fact most of the dome shapes are sub-conical, and "conical" probably serves Lowie only for a descriptive epithet, for his few illustrations show sub-conical forms. The houses of the western Apache are perhaps the only truly hemispherical ones.

[343]
[291]

Fig. 26. Storehouses under the Cliffs of Cataract Canyon.

Taking these together we have this form among the Havasupai, Walapai, Yavapai, White Mountain Apache, Papago, Kaibab, Moapa, and the neighboring Tointess[2], Washo, Paviotso, Uintah and Southern

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[172] [1] A small stone ruin stands on a point of the cliff (at B, Fig. 26). Most of the walls have been roughly reconstructed as breastworks by the modern Indians. Sherds are plentiful: corrugated, black-on-white, black-on-red, and Havasupai pottery.

Ute, and it was found by Stansbury west of Great Salt Lake.[1] The Yuma use it for their summer residence. The Navaho hogan is the same structure, perhaps a little more substantially built, but bark roofed like the Southern Ute house and dirt covered like the Havasupai. This brush lodge is used by the Mescalero and Jicarilla, but both groups prefer the tipi. The Lipan do not build this form at all. The San Carlos Apache house is hemispherical, but the poles are arched rather than locked together. To the south the Seri construct a rough elongated hemisphere of a series of arches, brush covered. This is a tiny affair more like the Havasupai sweatlodge than the dwelling, but inasmuch as it is dome-shaped and the other tribes of northern Mexico make use of rectangular structures of another sort, it may questionably be included with our group above. The Luiseño house, conical and brush covered, should probably be included as well, but Sparkman's description leaves room for doubt. The Pima and Maricopa have a composite type: a thatched and dirt covered hemisphere of arched poles is raised over a rectangular foundation.[2]

The covered entrance-way of the Havasupai is also found in the Navaho hogan.

This form of lodge is typical then of an area principally west of the Pueblos and in the Basin. It has marked analogies in the north in the mat-covered, hemispherical lodges sometimes used by the Wishram, Wasco, Nez Percé, Klamath, and some of the interior Salish, and in the Plains tipi to the east. Some of the eastern Basin peoples, in fact (Northern and Wind River Shoshoni, and Ouray Ute) build tipis which are covered with brush or grass in place of skins.[3] It has been conjectured that the tipi of the Plains and the wickiup to the west in the Basin are related forms. But it is not clear whether these Shoshonean structures are to be regarded as adaptations of the Plains tipi or whether the latter is a specialized form of an earlier type represented by these and the bark covered tipi of Canada. The relations with Californian types are not clear.[4]

One further comparative point should be observed here. The Havasupai erect the lodge on a four-pole foundation. This is also the case with the Southern Ute and it is true of the tipis of the same people and

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[1] [illegible], (b), 168, 169, 203; [illegible], 252; Goddard, (c), 2nd ed., 144; Gifford, 260; Bartlett, I, 302; Powell, Fig. 43; Dellenbaugh, 177f; Lowie, (l), 216-220; Barrett, (b), 10; Mooney, (b), [illegible]; [illegible], 26, 230, 231; Mindeleff, (c), 200; Goddard, [illegible]

[2] [illegible], (b), 333; [illegible], (b), 260; Franciscan Fathers, [illegible]; McGee, 221; [illegible], (c), 53, 38, 60, 232; Lowie, (c), 2nd ed., 132; Curtis, I, 34; Hrdlička, (d), [illegible]; Sparkman, 212; Bartlett, II, 2[illegible]; Russell, (d), 154; Hrdlička, (c), 41, 42; Whittemore, 56.

[3] Lowie, (a), 182f; (l), 221.

[4] See especially Mason, J. A., (a), 125, 126; Kroeber, (g), 64, Plate 14; Dixon, (c), 210, 211; Spier, (c), 239.

171 342 the Wind River. Lowie has pointed out their resemblance in this regard to the Blackfoot and Crow, and, to complete the list from Wissler's notes, the Sarsi, Hidatsa, Salteaux, Comanche, and possibly the Kiowa Apache.[1] It is important to know the foundation pattern for the other tribes of this area. For if they all use four poles then Lowie's suggestion might be reversed; the four-pole tipi of the Blackfoot, Crow, and others being derived from the Basin peoples. The Navaho at least use a three-pole foundation for the hogan. This is analogous to the usual Plains tipi. We should know what the Jicarilla and Mescalero use to solve this puzzle.

The gable house is typical of the Mohave, but is used by the Havasupai and White Mountain Apache. It is characteristic of this form that the walls closing the gable ends slant as well as the sides and that the corners are rounded. The Southern Diegueño house is presumably a related type, although it lacks these features. We should probably look to other southern and central Californian tribes for similar forms.[2]

The Navaho log cabin of polygonal groundplan is copied by the Havasupai. It has been suggested that this structure is related to the log roofing of some prehistoric subterranean kivas.

The flat-roofed, rectangular shade is very widely used but it is not usually walled in. 171 343 When three or four sides are closed it forms a definite type of house, which furthermore seems to have only a local distribution. This includes the Havasupai, Moapa and Tointesa" Paiute, and Mohave. These Paiute houses are said to have sloping roofs, but I take this to be only a minor difference. The rectangular, gable-roofed house of the Cahuilla and of the modern Southern Diegueño may belong to the same type. The walled-in shade seems to be related to a type of structure used to the south by the Pima, Maricopa, Papago, and Yuma; that is, a similar rectangular house of which the walls are vertical poles wattled with brush and mud. This in turn bears resemblance to the houses of the Opata and Jumanos in northern Mexico.[3]

The matter of house types is further complicated by the reports of communal dwellings in southern California. We know little about these.

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[1] Wissler, (a), 119.

[2] Kroeber, (a), 277. Goddard, (a), 2nd ed., 145. The Moapa house referred to by Lowie [(h), 219, Fig. 7a] as of Mohave type is not characteristic of that tribe, although it is used by them (see *Handbook of American Indians*, I, 921).

[3] Bandelier, (a), 58, 60.

281 286 this warp at intervals of 5 cm. Blankets are fairly rectangular; specimens measuring 75 by 125 cm.; 125 by 140 cm., and a mattress 65 cm. square. The sixty rabbitskins or so necessary for a good-sized blanket are gathered from time to time. The skins are not tanned. Such blankets are quite heavy. Women do not like to go without their shawls, [291] [171] at least outside the camp, but I doubt that the sentiment is as strong as at Zuñi.[1]

291 294 Hard sole moccasins are the universal footgear.[2] Women sometimes wear the man's type, but their regular style is like that of Pueblo women, with a long upper which is wound around the leg. The man's moccasin consists of two pieces. The sole is made of the neck skin, the thickest part of a deer hide. In all types the sole comes well up the sides and toe, being shaped and puckered. Three styles are used in the upper of men's moccasins (*mahányé'*, sing. or pl.). The commonest is a single piece lapping at the outside of the foot, where it is fastened with Navaho [439] silver buttons (Fig. 41).[3] A short thong is tied through upper and sole at the bottom of the opening for reinforcement. A second type also has a single piece upper, but so cut as to form a short tongue, which the upper laps at the inside of the foot (Fig. 42). The third type resembles that of the

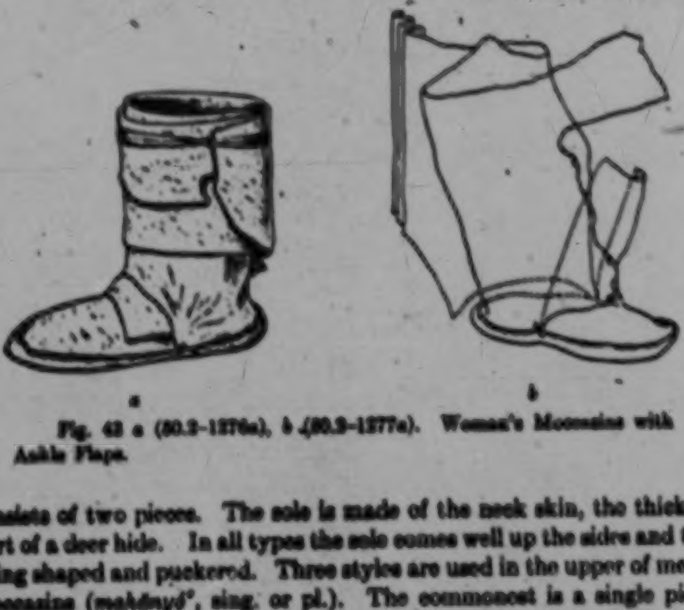

Fig. 43 a (50.2-1276a), b (50.2-1277a). Woman's Moccasins with Ankle Flaps.

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[1] The modern shawl hangs to the heels like that of the Colorado River tribes. It is formed of four bandannas sewed together. Two corners are tied under the chin. The modern dress is also like that of the river people. An underskirt is universally worn.

[2] Neither one-piece moccasins, sandals, nor basketry shoes are made.

[3] This is the type shown by Wissler, (a), Fig. 97, for the Zuñi.

302 rule, use their fingers. Some attention is given to washing the hair with
[515] yucca roots, but not that of the Pueblos. A little mountain sheep grease
worked up in the hands is rubbed on the hair to make it shine.

According to informants, hair cuttings are burned so that the birds
[825] cannot use them in nest-building, which the natives would not like. But
I noted that hair clippings were left strewn about the camps. No care is
taken of nail pairings.

Older men wear scanty beards and moustaches, but facial hair is
usually plucked out, except from the tender spot under the lower lip.

Necklaces are worn by both children and adults. They are not
301 made locally but obtained from the Mohave through the Walapai.
[439] Arrowheads are strung on them, or a single specimen is hung about the
neck on a thong, or sewn to the shoulder of the shirt, like an epaulet, to
[751] prevent sickness and bad luck.[1] One specimen (50.2-1621), modern in
[171] type, but showing affinity with the Colorado River tribes, is a single
string of trade beads, alternately blue and white in centimeter lengths,
from which hangs a roughly crescentic shell pendant. Usually such
[439] necklaces consist of many strings similarly arranged. Men also wear the
shell and turquoise type obtained from the Navaho and Hopi.

When infants are one day old, the lobes of their ears are pierced by a
304 relative or friend with a sharp twig. A cotton cord is looped through to
keep the hole open and deer or mountain sheep grease smeared on to
soothe the pain. The action is said to be ornamental in intent, and with-
[751] out esoteric significance, but piercing the ears is supposed to prevent
deafness—despite an obvious example to the contrary! Ear pendants
301 are worn by persons of all ages. These are turquoise or abalone beads
hung on short cotton cords obtained from the Hopi; 5 cm. long for men
[439] but 15 cm. for women, so as to hang level with the collar bones.

Huge earrings of silver or beaded cactus thorns, plugs of colored wood, or buttons
[304] are stuck into the ears, which are pierced one, two, three, and four times.[2]

Beside those of silver, bright red finger rings are made of the flat
301 spines of the barrel cactus. Holding the spine between thumb and fore-
306 finger, a brand is touched to its middle, until it can be sprung into a
ring (sälkilitikë'; säl, finger, hand; ikilit, barrel cactus spine). These
are purely decorative.

While face painting (djidiviga) is indulged in by both sexes and all
302 ages, it is neither very brilliant nor in daily use. To be sure, girls paint
themselves more frequently than matrons in order to enhance their

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[1] But not especially to ward off lightning, as among the Hopi [Hough, (c), 260].
[2] Cushing, (a), 366.

[Text continues on p. 196]

302 charms, and old women are given to the practice. All painting is decorative; quite devoid of esoteric significance. The most common decoration, particularly that of the old women, is painting the front of the face, within the frame of the hair, red.[1] Equally common are two red spots, one on each cheek bone. Infrequent styles, worn by men, are similar spots, of red, but bordered by sienna, and three horizontal lines on each cheek with a stripe down the forehead. The styles shown in Fig. 47 are redrawn from sketches by a native, who arranged them in the order of their popularity; styles *g* to *l* are but infrequently used. All of these styles were said to be in use by young women, but sometimes young men would use *a*, *g* and *k*, while *h* was peculiar to little girls. It seems rather that there is great latitude in the use, form, and coloring of these paintings. Ordinarily executed in red, black, sienna, or white may be used, except that *g* was said to be red alone, *h* red or mescal, and *l* blue. The figures are frequently bordered or filled in with a second color, as white between red or black in *a*, sienna around red dots in *c*, or a sienna border within the figure in *j*. There are no special names for these styles of painting. The old style apron-dress left women's legs exposed; old (?) women painted them red from ankle to knee.

Red paint is not obtainable near the village, but is taken from a
326 mine on Diamond Creek in Walapai territory. The mine entrance is a
317 small orifice in the face of a cliff, which can only be reached by a ladder. Only one man at a time can enter, crawling flat, dragging a sack under him. The powdered red clay is scooped into the sack, which is held under the arm as he backs out. This is dangerous work, for more than one man has been killed in the crevice. A second mine is located east of Grand View in their own range. Black paint (*matíngwidjĭ*, black earth) is scraped from a stratum in a trench at Pine Springs, also in Walapai territory. Charcoal is not used. The red and black powders are kept
326 in little buckskin bags, sewed with a running stitch, with a thong bound about the neck. The red powder is sometimes mixed with water so that it can be rolled into a ball and kept in a bag in this form. Powder is scratched from the ball with the thumb nail until a pinch is collected in the palm. Cold grease, preferably deer, is kept in another bag; it will not spoil for a month or so. It is chewed until soft, kneaded with the powder in the hand, and smeared on the face with the fingers. Black
[302] paint is not mixed with grease, but a stick, moistened in the mouth, is inserted in the nearly closed neck of the bag. For a white paint (*matihé'e*

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[171] [1] The Walapai are said sometimes to paint their faces black in this manner instead of red.

177 by the Pueblo and Navaho, suggest a fascinating problem which ought
291 to be open to analysis, but will not be attempted here.

We are dealing here with an area in which two styles of clothing
171 prevail. For men, these are either sandals, kilt or apron, and cloth poncho, or else moccasins, leggings, breechclout, and the Plains shirt,
291 which is essentially a skin poncho. For women, the types that correspond are sandals with either aprons or the dress of the Pueblo women, an uncut square of cloth, or again moccasins and the Plains woman's dress.

The characteristic Californian man's garment is the apron of fiber or skin. For example, on the borders of our area the Achomawi, Atsugewi, and Southern Diegueño men wear a single apron in front and never affect the breechcloth. The Mohave use either breechclout or apron. The apron is presumably related to the traditional garment of the Pueblo, a woven kilt, persisting today only in ceremonial dress. The Navaho make use of a broad fringed belt which to the Franciscan Fathers suggests a kilt.[1]

All the other Southwestern tribes and their neighbors wear breechclouts. This is recorded for the Uintah Ute, Paviotso, Chemehuevi, Havasupai, Yavapai, Tonto Apache, Yuma, Cocopa, Maricopa, Pima, Navaho, and the Pueblos of Taos, Picuris, and Pecos. It is implied in the Plains dress of the Northern Shoshoni and Jicarilla, and undoubtedly was used by Mescalero and Western Apache and by the Paiute.[2] Even
[177] where trousers of Spanish or later patterns have displaced the Pueblo kilt, the breechclout is worn, as at Zuñi, beneath the trousers.

The breechclout is then characteristic of the whole area westward to the Californian border, excepting only the Pueblo of the prehistoric period. There is some variation even in this simple garment. The typical Plains form having long flaps pendent front and back is that of the northern Pueblos, Taos, Picuris, and Pecos. Other Pueblos and the Havasupai, Maricopa, and Cocopa wear it with short flaps. On the other hand that of the Mohave is long again, while that of the adjacent Yavapai has a long flap in the rear.

The Pueblo trousers are ultimately derived from Spanish sources;
171 short-waisted, knee length, and open at the knee. The Havasupai form
177 with the outer seams open at intervals is identical with the Navaho,
291 from which it is probably derived. Kaibab Paiute are also shown in one

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[1] [illegible], (a), [illegible]; Spier, (a), 340; Whipple, 114; Franciscan Fathers, 468.

[2] Lowie, (f), 216; Whipple, Ewbank, and Turner, 20; Carpenter, 201–202; Smart, 418; [illegible] 888; Heintzelman, 42; *Handbook of American Indians*, 1, 310–[illegible]; Bartlett, II, 180, 230; Russell, [illegible], 157; Letherman, [illegible]; Goddard, (c), 2nd ed., 86, 141; Lowie, (a), 180–181.

of Powell's illustrations wearing trousers, or perhaps only long fringed 171
leggings. One curious feature about the Havasupai and Zuñi garments 177
is that they are made from two straight pieces which fail to meet at the 291
belt in front, leaving a space to be covered by the breechclout. This suggests an origin of the pattern in two long leggings attached to the belt, but the case is inconclusive.[1]

The Plains man's shirt is found throughout this area, though it is 171
probably not so commonly worn as on the Plains. It is essentially a 291
poncho of skin, as Wissler has demonstrated, yet always with a well-defined pattern. It is precisely the Plains form which we encounter everywhere. It is recorded for the Lemhi and Wind River Shoshoni, Jicarilla, Mescalero, and Western Apache, Taos, Picuris, Pecos, other Rio Grande Pueblos, Zuñi, Hopi,[2] Pima, Mohave,[3] Yavapai,[4] Havasupai, Paiute,[5] Uintah Ute, Achomawi, Atsugewi, and Klamath.

Wissler has made a case for the origin of the Plains shirt pattern in the cloth poncho.[6] The older Havasupai type and that of the Yavapai lend corroboration; both are folded skins slit to pass over the head. The woven poncho is at least characteristic of the Pueblos in our area, as well as in use throughout Mexico and the cordilleran region to the south. The Navaho also have the typical form; a blanket so woven that a slit remains in the fabric. The Southern Diegueño prepare a rabbitskin blanket similarly. Yet, both the Hopi and Navaho[7] make a cloth poncho which, by the addition of short lengths of cloth to cover the arms, approximates the Plains type of shirt. It is more likely that this is in imitation of the Plains garment, which was patterned on the original simple cloth poncho, than the reverse.

The triangular flaps attached front and back to the Plains shirt at the neck hole have been tentatively explained by Wissler as possibly originating in a knife sheath hung in front of the throat.[8] It is difficult to account for two appendages in this manner. I think rather we have here confirmation of his general theory, for the Mexican ponchos in the collection of the American Museum are decorated with large lozenges woven at their centers, so arranged that when the cloth is folded, a triangular area extends downward from the neck hole in front and in back.

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[1] Franciscan Fathers, 460; Powell, Fig. 45; Stevenson, M. C., (b), 369.
[2] Whipple, Ewbank, and Turner, 31; Hough, (c), 242-245.
[3] "A kind of tunic made of a buckskin fringe hanging over the shoulders" (Whipple, 114).
[4] A doeskin folded crosswise, slit for the head, and tied at the sides (Corbusier, 332).
[5] *Handbook of American Indians*, II, 165, ill.
[6] Wissler, (d).
[7] Mason, (d), Fig. 140; Franciscan Fathers, 247, 457, 456.
[8] Wissler, (a), 163.

171 Women's dresses present an even more interesting case of merging
291 of patterns. East of our area the Plains women's dress is a long garment reaching to the shins, comprised of two skins forming a straight line at the shoulders and with the upper part turned down to form decorative flaps over the chest and shoulder blades. To the west women wear a short apron or skirt of cords, etc., pendent from the belt or made of skins. Among the Havasupai, Yavapai, Navaho, and possibly the Kaibab, these patterns coalesce but in different ways.

The Plains dress is used within this area by the Wind River and Lemhi Shoshoni, Paviotso, Jicarilla[1] and probably Mimbreños[2] Apache, Navaho at times, Kaibab Paiute and possibly others near them, although Paiute women had scanty attire as a rule.[3]

On the other hand the Achomawi and Atsugewi, like typical Californians, wear a fringe or apron of deerskin or a deerskin skirt, the Southern Diegueño two aprons of pendent twigs, the Pericues a skirt or long girdle of fiber or deerskins, and other Lower Californians two aprons, usually of reeds strung together,[4] the Chemehuevi a bark petticoat, the Cocopa an apron of cords, the Yuma two aprons of willow (that in front reaching to the knee and the other made like a bustle and extending to the bottom of the calf), the Mohave a fore skirt of cords and a back skirt of strips of the inner bark of the cottonwood, the Apache-Yuma sometimes a kilt of strips of bark hung over the belt,[5] the Maricopa and Pima skirts of cotton cloth, buckskin, or willow bark.[6] The Mescalero and Westen Apache garment, a skirt from waist to knees and "generously provided with fringes of buckskin," is presumably the same as these.[7]

The Havasupai woman's dress is clearly a modification of the two-apron type in the direction of the Plains dress. The front apron has been lengthened to hang from breast to shins and the upper part turned back to form a flap in the manner of the Plains yoke. There is a distinction however in that the neck part of the skin is at the top, not at the bottom as in the Plains dress. That it is hung by a band around the neck is unessential, for unless there is a corresponding back part to which it might be sewed it must be hung in some such fashion. No such change has occurred in the back apron; I do not fathom the reason for the horn-shaped additions. One curious feature is that an abbreviated

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[1] Lowie, (f), 217; (a), [illegible]; Goddard, (c), 2nd ed., 161.
[2] Jackets or tunics of deerskin (Bartlett, II, 228).
[3] Pattie, [illegible]; Powell, 113, Fig. 44; *Handbook of American Indians*, II, 187, ill.
[4] North, [illegible]; Baegert, 361.
[5] Whipple, Ewbank, and Turner, 32, 51; Corbusier, 262.
[6] Bandelier, (a), 113.
[7] Goddard, (e).

apron is always worn under the long garment. It seems probable that 171
this is the original form of front apron perpetuated by the strong force 291
of habit after the longer form was evolved. And it may be that the long garment was only infrequently worn, perhaps only in cold weather. An ornamental fringe worn in front as a belt looks like a further repetition of the apron idea.

Yavapai dress is identical. Two aprons are worn; a buckskin hung in front of the belt and another behind, and in winter

> a third one suspended from the neck by strings, and bound at the waist by a belt to protect the chest.

Even the decorations are alike; in both jinglers are put on the fringes, [301]
including bone tubes on the tabs of the neck straps.[1] [531]

Powell illustrates a Kaibab woman's dress which is of the Plains variety, a long skin affair with a fringed yoke. Yet there appears to be a short fringed apron over this.[2]

The older Navaho dress is a more direct imitation of Plains costume in cloth. Two blankets, which hang well below the knees, are sewed together over the shoulders, sewn from the bottom to the waist, and belted with a woven girdle.[3] This may be taken to be an adaptation of the Pueblo woman's cloth dress to the Plains pattern.

The Mescalero and Western Apache women are credited with an upper garment which may be an approximation to the Plains dress or perhaps to the man's shirt. It "had an opening for the head and two large square portions which fell in front and behind to the hips." This may also be true of the Achomawi, Atsugewi, and Southern Diegueño, who wear a poncho garment like that of the men; the first two a skin slit for the head and sewn under the arms, the last a rabbitskin blanket.[4] The Klamath have both the long dress and the skirt of bark strings.

In addition to these two general types, there is the dress of the Pueblo women. This is a garment formed of a square of cloth folded lengthwise and sewed into a tube. This hangs under the left arm with two corners fastened over the right shoulder.[5]

A woven belt similar to that worn by Pueblo women is used by the Havasupai (who derive them from the Hopi) and by the Navaho, Pima, and Mohave.

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[1] Corbusier, 282.

[2] Powell, Fig. 44.

[3] Stephen, (b), 355f; Letherman, 290; illustrated by Matthews, (a), Pl 34 and 36; Lipps, facing p. 40; James, (d), Fig. 129.

[4] Goddard, (c), 2nd ed., 161; Dixon, (e), 209-210; Spier, (e), 340.

[5] Hough, (e), 247.

171 291 301 Strings of jinglers or rattlers are hung from the belts of White Mountain Apache and Havasupai women. They are also referred to in myths of the Shivwits Paiute, Wind River Shoshoni, and Comanche.[1]

102 171 291

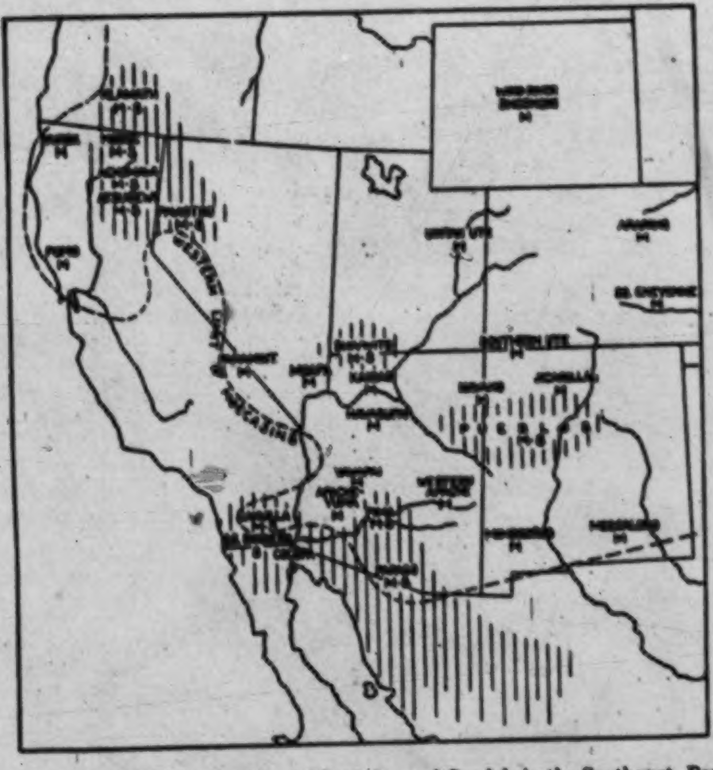

Fig. 49. The Distribution of Moccasins and Sandals in the Southwest, Basin, and Californian Areas. Shaded areas denote sandals.

171 291 [175] The moccasin is widely used in the Southwest but there is reason to believe that, like the Plains shirt and woman's dress, it is of recent introduction. At least the Pueblos, like the Pima and Papago, used sandals at the Spanish advent.

Moccasins are everywhere of the hard sole, two-piece variety. In the area at large they have been noted for the Wind River Shoshoni

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[1] Lowie, (b), 140; St. Clair and Lowie, 279.

(said to have formerly had the one-piece type, the hard-soled affair being 171 introduced from the Arapaho), Uintah and Southern Ute, the Jicarilla 291 (by implication), Mescalero, Mimbreños, the Pueblos, Navaho, Western Apache, Yavapai, Havasupai, Apache-Yuma, Pima, Papago, Cahuilla, Kaibab, Shivwits, and Moapa Paiute (used by the rich among the last), Panamint, Paviotso, Achomawi, Atsugewi,[1] Yurok, and Modoc. Yurok, Klamath, and Pomo have a one-piece moccasin, with a seam up the toe, which has a considerable distribution in California. It is not clear that moccasins are usually men's footgear alone. On the contrary, the implication is frequently that they were used by both sexes. But there is usually some difference in pattern. Pueblo women customarily go barefoot, in which the Havasupai women resemble them. Moccasins are for [292] them articles of gala dress or for journeys.[2] This is also true of the usual Papago and Pima usage, and indeed may be general in the Basin.

It is difficult to make comparisons with neither specimens nor specific descriptions at hand. Yet there seem to be two prevailing general types; low moccasins covering the ankles and high forms in which the upper is wrapped around the calf. The latter is generally confined to women. The low types are used by Havasupai, Zuñi, Hopi, Cochiti, Navaho, Apache-Yuma, and Cahuilla, and usually by men. Boot-like affairs are also ascribed to the Tonto (men), Mimbreños (men), and Pueblos. The wrapped-around type is used by Yavapai of both sexes and by women among Havasupai, Navaho, and the Pueblos.

Wissler's pattern Number[3]	*Havasupai*	*Navaho*	*Hopi*	*Zuñi*	*Cochiti*
17—First Havasupai type	Men; sometimes women		?	×	
——Second Havasupai type	Men; sometimes women				
14—(but with short upper)	Men	Men	×		×
14—Third Havasupai type	Women	Women			
15			×		
18			×		

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[1] Lowie, (l), 218; Pattie, 164; Bartlett, I, 227–229; Hough, (e), 251; Dumarest, 146; Stuart, 419; [illegible], 262; Whipple, 96; Goddard, (a), 2nd ed., 127; Kroeber, (g), 61; Dutcher 378; Barrett, (a), 255.

[2] Hopi women wear the wrapped moccasin only at marriage ceremonies (Hough, (d), 72).

[3] Wissler, (a), 146–151. See also especially Stephen, (a), 131, 133; Mason, [illegible], (g), 302; Dumarest, Fig. 19.

171 291 These specific comparisons show that Havasupai and Navaho alike have one pattern (No. 14) used by both sexes, which differs only in the length of the upper.

[531] Moccasins in this area, like other articles of skin, are frequently colored brown or red. Those of the Zuñi and Navaho are brown; those of Havasupai and Pima are red. In this they differ from the Southern Plains, where, if I recall correctly, the prevalent color is yellow.

Sandals may have occurred more generally in earlier times. They are known to have been in use among the Pueblos, in southern California, and in the regions to the south[1] through western South America. In our own day fiber sandals of identical pattern are made by Southern Diegueño and Shivwits, fiber sandals of undescribed types are made by Cocopa, Cahuilla and doubtless by their neighbors, and low slippers of tule by Paviotso, Achomawi, Atsugewi, Klamath, and Modoc. Sandals of hide are made by the Pima, Papago, Cocopa, Southern Diegueño, and Chemehuevi. Those of the Yuma are not described.[2]

Long fringed skin leggings of Plains type are worn by men throughout much the same area as the Plains shirt. Something of the sort was used by Wind River and Lemhi Shoshoni, Uintah Ute, Jicarilla (by implication), Taos, Picuris, Pecos, Mescalero, Mimbreños (?), Western Apache, Yavapai, Havasupai (?), Kaibab, Paviotso, Achomawi, and Atsugewi. The Navaho men, and the Havasupai in imitation of them, have a short legging reaching only as high as the knee. This distribution does not extend as far to the southwest as that of moccasins. There is less information about women's leggings, which in the Plains cover only the lower leg. Leggings are noted for Wind River and Lemhi (?) Shoshoni women, and Mimbreños. They were not used by the Paviotso nor the Havasupai. The footless knitted stocking worn by Pueblo women, as at Zuñi, may be a local adaptation. It also seems possible that the puttee-like women's moccasins of this area may be copies of the boot-like moccasins of the Southern Plains.

Overshoes worn over the moccasin when in snow are reported for the Walapai, Havasupai, Navaho, and Zuñi.[3]

171 281 286 291 Rabbitskin blankets are perhaps universal in the western plateaus, and used in California and throughout much of the northern part of the continent. My notes are somewhat random, but will help to define the distribution: Zuñi, Hopi, Navaho, Havasupai, Walapai, Mohave,[4]

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[1] E. g., Huichol [Lumholtz, (a), Pl. I, II.]

[2] Spier, (e), 344 f; Kroeber, (l), 61; Mason, O. T., (g), 362; Trippel, 565; Barrett, (a), 255; Chittenden, 304.

[3] Franciscan Fathers, 47, 310; Stephen, (a); 133; Mason, O. T., (g), 408.

[4] The weaving of a rabbitskin blanket is illustrated by James, (d), Fig. 2, but according to Kroeber, these are obtained from the Paiute and Walapai, (h), 277.

Pima, Southern Diegueño, Luiseño, a people of the vicinity of Santa 171
Barbara, Salinan, Miwok, Southern and Northern Maidu, Shivwits 281
and Kaibab Paiute, Paviotso, Gosiute, Southern (?) Ute, and Northern 286
Shoshoni.[1] There is some variation in the details of manufacture which 291
provides comparative data. The Southern Diegueño and Havasupai warp these upon rows of stakes; the Hopi do not. The Maidu resemble the Paviotso in warping them over two poles.[2]

Descriptions of hair dress are lacking in precision and the situation 171
is somewhat complex. A style consisting of doubling up the long back 302
hair into a knot or queue at the back of the head is common to the Havasupai, Hopi, Navaho, Zuñi, and the Rio Grande Pueblos. Yet there is considerable difference even here: the Pueblos bang the hair over the forehead and cut that at the sides square; the Havasupai, while they too use the bang, wear the hair at the temples long. The Rio Grande Pueblos are said to arrange it behind in two clubs.[3]

Westward of this group the style calls for the bang on the forehead but long hair behind, even artificially lengthened. There appear to be two general styles of treating this back hair. It is simply wrapped without braiding by the Yavapai, Apache-Yuma,[4] Chemehuevi,[5] and Southern Diegueño.[6] On the lower Colorado and Gila the back hair hangs in long plaits or rolls: Mohave, Yuma, Maricopa, Pima, and probably Cocopa.[7] The Maricopa and Pima alternatively arrange it in a club at the back. The Mohave and Walapai, like the Seri, also part it in the middle and allow it to hang loose. The Walapai sometimes wear a braid on each side. Like the Havasupai, the Maricopa and Cocopa have pendent ear locks.

The position of the Western Apache is not clear. The Tonto wore the hair banged at the eyebrows and longer behind, but not to the shoulders, or they cut it short all around. The San Carlos trimmed it, but wore no bang.[8]

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[1] Stevenson, M. C., (b), 370; Hough, (d), 262; Franciscan Fathers, 141; Curtis, II, 93; Russell, (d), 158; Spier, (e), 340; Sparkman, 200; Yates, 375; Mason, J. A., (a), 127; Powers, 338, 351; Faye, 38; Dixon, (a), 148 (where the blankets are used more in the Sierras than in the Sacramento valley); Lowie, (l), 198, 216, 217, 228; Dellenbaugh, 178; Chamberlin, (b), 330; Lowie, (a), 178.

[2] Among the Paviotso weaving is the work of men, but sometimes of women. It would be interesting to know whether this is connected with Pueblo loom weaving, formerly a man's art, or with the manufacture of all clothing by men, as among the Havasupai. [462]

[3] Stephen, 355; Franciscan Fathers, 464; Hough, (e), 213; Goddard, (c), 2nd ed., 8.

[4] "Long matted rolls of false hair behind" (Corbusier, 279); Bourke, (d), 114.

[5] Gathered "by a narrow band, from which it hangs loosely down the back"; or does this mean a headband encircling loose hair? (Whipple, Ewbank, and Turner, 33.)

[6] Spier, (e), 340.

[7] Heintzelman, 48; Trippel, 565; Russell, (d), 158; Cremony, 90; Bandelier, (a), 253; Bartlett, I, 462, II, 217, 230; Whipple, Ewbank, and Turner, 33. The Quarrar, a tribe found by Oñate at the mouth of the Gila in 1604–5, had a similar hairdress (Bandelier, (a), 111). McGee, 227; see also Lumholtz, (a), 6; Curtis, II, 93.

[8] Smart, 418; Hrdlička, (d), 480.

Plains hair dress is affected to the east. Mescalero, Taos, Picuris,
171 Southern Ute, and Northern Shoshoni men wear their hair in braids,
302 sometimes wrapping them with strips of fur. This was apparently the earlier Navaho style. It is, on the contrary, of recent introduction among the Northern Shoshoni, who in earlier times wore the hair loose and parted in the middle in the manner of the Wind River Shoshoni.[1]

The case is simpler with regard to women's hairdress. Apparently throughout the Basin and among most of the rancheria peoples of the Southwest women wore their hair loose. In Arizona it was usually cut straight across the forehead to form a low bang and in the back at the level of the shoulders (Havasupai, Walapai, Yavapai, San Carlos Apache, and some Mohave). Pima, Maricopa, and Yuma followed the same style, but the back hair may have been somewhat longer, hanging even to the middle of the back. The Southern Diegueño add only braids at the temples.[2] Aside from these, Plains influence has apparently affected the Lemhi and Wind River Shoshoni and the Southern Ute, who part the hair in the middle though they do not braid it. The older Pueblo style of two whorls of hair on the side of the head, described by Castañeda for the Zuñi, is perpetuated only by Hopi maidens. The older women in those pueblos wear two short braids. Elsewhere, the hair is banged in front and cut square just below the ears in back, but at Zuñi at least the hair is parted from ear to ear over the crown of the head and the rear portion tied in a queue. Navaho women, like the men, draw the hair straight back and club it behind. The Achomawi and Atsugewi wear it in two braids wrapped with minkskin in front of the shoulders. Illustrations of a Cocopa and some Mohave show it hanging loose about the shoulders from a central part.[3]

A feather hair ornament consisting of a bunch of down pendent
171 from the top of the head by a short cord is worn by the Havasupai,
[301] Yavapai,[4] and by Zuñi dancers. It may be more generally distributed in the Southwest.

A brush of stiff fibers similar to the Havasupai hairbrush is made by
[412] the Pima and Huichol.[5]

Ear pendants worn by Yavapai of both sexes are quite similar to
[301] those of the Havasupai: strings of beads, five to six inches long, with mother-of-pearl or stone pendants.[6]

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[1] Pattie, 164; Goddard, (c), 2nd ed., 94; Lowie, (l), 216, 217; (a), 182; Franciscan Fathers, 80. For a western group see Dixon, (c), 310.

[2] *Handbook of American Indians*, I, 306; Bartlett, II, 236.

[3] *Handbook of American Indians*, I, 230, 960; Stevenson, M. C., (b), 371.

[4] Corbusier, 280.

[5] Russell, (d), 116; Kissell, 143; Lumholtz, (c), II, 223.

[6] Corbusier, 280, 283.

The Yavapai resemble the Havasupai in their preference for red paint and in their use of the juice of burnt mescal.[1] 171 302

In this connection it is interesting to note that red paint is associated with war by some of these tribes and further that its use may have spread westward in recent times. The Wind River Shoshoni and Klamath use it in war.[2] I have recorded an incident (p. 361) in which a Paiute who has killed a Mormon is painted red. Powers noted that red paint, having a war-like significance, was introduced among the Yokuts from the Mono about 1800 and among the Karok with the Ghost dance of 1870. Miss A. H. Gayton also found that the ghost dance of 1870 brought red and black face paint into more general use among the Foothill Yokuts. At the same time the Moapa state that their red paint is derived from Shivwits territory, the Cahuilla that theirs is from Arizona, and the Mohave derive at least the best of theirs, like the Havasupai, from the Walapai. The Pima formerly obtained the paint from the Mohave, but in recent years from the Yuma. Finally a Southern Diegueño stated that it was brought from the Mohave country about 1875. On the other hand, the Salinan made red pigment of cinnabar, mined in that region.[3]

Tattooing is a practice which in the Southwest is almost entirely confined to the lower Colorado tribes and their neighbors. Mohave, Yuma, Southern Diegueño, Maricopa, Pima, and Yavapai women only are usually tattooed; the decoration is restricted to the chin, usually in the form of a few lines drawn downward from the corners of the mouth or under the lower lip.[4] In addition the lower eyelid of Pima men and women is tattooed and men have marks on the temples and forehead. Similarly, both sexes among the Havasupai, Walapai (?), and White Mountain Apache[5] are tattooed, but only in the simplest fashion with small marks. Tattooing sometimes occurs among the Pueblos and the Northern Shoshoni, but it is no more than this. On the other hand, the Navaho do not tattoo,[6] and it may be suspected that this was formerly true of the Pueblos and White Mountain Apache.[7] 171 304

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[1] Corbusier, 281.

[2] Lowie, (i), 297. But all the Maricopa painted red in token of amity, according to Pattie (132).

[3] Powers, 42, 351, 397. Powers assumes a war-like implication for red paint, but Miss Gayton tells me that this was an error of the local whites, while the ghost dance was entirely peaceful in Yokuts thought. Lowie, (i), 311; Kroeber, (g), 62; Russell, (d), 161; Spier, (e), 341; Mason, J. A., (a), 129.

[4] Kroeber, (a), 234; Whipple, 114; Whipple, Ewbank, and Turner, 33; Stratton, 74; Trippel, 565 f; Heintzelman, 48; Spier, (e), 342; Bartlett, II, 229; Hrdlička, (e), 45; Russell, (d), 162; Corbusier, 280 f.

[5] Dorsey, G. A., (b), 185.

[6] Lowie, (a), 182. For Zuñi see Sinclair, 289; Franciscan Fathers, 74, 308.

[7] According to Hrdlička [(d), 490] the older San Carlos are not tattooed, the younger ones having recently learned the custom from the Mohave.

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304

Tattooing also occurs elsewhere in California. I do not know how closely this resembles the style of the lower Colorado tribes. But the Maidu women, who alone as a rule bear the decoration, have three to seven vertical lines on the chin. There are regional differences among these people. Among Achomawi and Atsugewi, who tattoo but little, the women also have three lines on chin or cheek, the men a line of dots on the temple. This is somewhat like the Klamath custom. Yokuts and Costanoan also tattooed.[1]

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[1] Dixon, (a), 167; (d), 220; Mason, J. A., (d), 120.

Since the little that is transmitted is acquired by the sex to which it is pertinent, there is little inheritance of a husband's or wife's goods by the survivor. 428

A dying shaman might choose a successor to whom he transmits his spirit and paraphernalia. Bob told people that when his grandfather was about to die, the latter instructed him and gave him his spirit. Bob died at odds with life; he wanted his spirit to leave him and he gave instructions that his rattles and medicines (?) be broken and buried with him rather than give them to his relatives. Chief's status is inherited, normally in the male line. There are some indications, as given in the next section, that chieftainship is not an office to be filled by a single incumbent, but transmissible and divisible property. 756 424 428 622 424 428

CHIEFTAINSHIP

There are six chiefs today, one of whom occupies a superior status and is recognized by the agent as the head chief; the others are equally leaders. These men have become chiefs through inheritance, through prestige and renown, or both. Women are never chiefs. Chieftainship is emphatically not a position; it is the embodiment of certain somewhat vague functions. 624 [648]

The Havasupai are accustomed to speak of "big chiefs" and "little chiefs," but I cannot find that there are different words in their language expressing these ideas, or that there is any difference in function. Manakadja, who succeeded his uncle Captain Navajo to the head chieftainship established since reservation days, is called "big chief." But it is clear from the accounts that follow that all that is meant is an especially important chief, the most prominent individual in the tribe. Like the little chiefs, Manakadja is called *gamúlva* or *kahá't*,[1] but he is also known as *handidva*, superlatively good.[2] Little chiefs are also (collectively?) called *múlovagïdjïgdïá*. Jess differentiated between them by *múlvak'ïdja* and *pagamúlvakávdtéha*, literally, little chief and big-chief-man.

Chieftainship is defined only by its functions, which consist largely of giving advice and admonitions. This is so largely true that it might be said not that a chief is one who talks, but that one who talks is a chief. Chiefs tell their people how to act, especially the young men and women. The former are admonished to work, farm, hunt, and make clothing and moccasins; the latter to gather seeds, cook, plant, and make baskets. 183 624

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[1] Compare the Mohave *kohota* for the dance leader. The Havasupai are not familiar with the word and were inclined to believe that it was a Hopi word for chief, *kwakdta*.

[2] The Cocopa headman is also called good-man (information from R. H. Lowie). The Yuma head chief is *hoa-ah-thal* (Trippel, 508). [171]

623 648 plained privately at the end of the speech making. Ultimately about fifty men and women went to the Walapai ceremony.

The repeater, Roger in this case, is invariable when strangers speak formally. Anyone who wishes may perform the function.

Garcés observed the same type of formal meeting among the Walapai in 1776.

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> On the following day there were arriving bands now of six, now of eight men, he who came at the head of each one of them making his harangue in my presence, and the Jaguallapai captain who was accompanying me responding to them in my behalf. This address of welcome is a custom among them; and at its conclusion each (speaker) turns to his band, asking them if he has spoken well and if that which he has set forth to them has suited them. I observed on this occasion that all of those of the band unanimously responded alike to their respective captains that it was good.[1]

TRADE

439 An active trade was conducted with the Navaho and Hopi to the east and with the Walapai and Mohave to the west. In fact, we may properly speak of a northern Arizona trade route from the Hopi to Mohave, independent of more southerly tribes and cut off from those to the north by the Grand Canyon.

[281] The Havasupai are noted for their buckskin among other tribes, according to Cushing,[2] but it must be added that they have no special process of tanning. Their trade with the Walapai was in eastern woven stuffs exchanged principally for raw deer hides, or sometimes tanned skins, and such far western articles as abalone or haliotis shell and the ears of dwarf corn obtained from the Mohave. The skins were tanned at home and carried to the Navaho, Hopi (chiefly at Oraibi), and the few Zuñi met in the Hopi pueblos. Loom products, blankets, sashes, etc., were mostly desired of the Hopi; silverwork, Hopi pottery for storage vessels, stone and shell beads, and buffalo (*ámθiŋ*) skins were also obtained. In return they furnished tanned deer, antelope, and mountain sheep skins, shirts and leggings of the same, mescal, piñon nuts, some baskets, and horn ladles which the Hopi flattened and bored for spindle whorls. The Hopi also desired ears of seed corn as long as the forearm from elbow to fingertips. Paiute were also met on the Little Colorado and among the Walapai, but occasionally visited at home. Garcés furnishes interesting evidence of the extent of this trading at the end of the eighteenth century. He found Hopi shirts and Spanish articles from the same source, among the Walapai, where there was a Hopi couple returning home by

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[1] Coues, 325-326. Garcés is somewhere between Truxton Canyon and Peach Springs, that is, in Walapai territory. He calls the people Yabipais, but he uses that word for any Yuman-speaking people east of the Mohave.

[2] Cushing, (a), 553.

713 with a thong tied to one side to form a handle. This was carried in the left hand to protect the face. Such armor would turn arrows.

A shield-like device was formed by hanging one or more heavy buckskins like a curtain from a bow held out horizontally before the body. Arrows striking this curtain would either fall harmlessly or hang in it. Men with such temporary shields and those with armor carried
726 clubs in their free hands. They were expected to advance steadily in close formation in the forefront of the attacking party. Others followed with bows drawn closely crouching in this protection. The bearer would lower his curtain-shield an instant while his companions shot, and quickly raise it until they were ready to fire again.

The curtain-shield is credited to the Walapai and Yavapai by my
171 informants. The usual rawhide circular shield (*süvakóva*) is not made by
411 the Havasupai, although it is said to be used by the Hopi. Slat armor is not made. Spears are not used, but they have been seen in the hands of the Yavapai and Hopi. Cushing, however, credits them with a wooden pike about 125 cm. long, pointed and hardened in the fire.[1]

In taking the offensive, as against the Yavapai, they proceed to
726 the neighborhood of the enemies' camp and wait in hiding while a few scout ahead. When scouts are out of contact with their own party, or
[198] when they fail to find the enemy, they communicate with one another by calling in imitation of the horned owl, coyote, or screech owl (*gdgōgd*, a little bigger than a man's fist and having horns). If they locate the enemy, they return without disclosing their presence by such calls. Then all move together, approaching the enemies' camp in the night. The bull-roarer is swung to make the wind blow hard, so that the enemy will flee before the wind. A short time before dawn, some surround the camp, while the others remain waiting for the first flush of daylight. As soon as they can barely see, those in the main body rush into the camp, shouting and clapping their mouths.[2] The enemy, confused with sleep, attempts to flee, but those surrounding the camp wait to catch and club or shoot them. So far as I know it was not customary to take
[727] captives. There is no special war leader, either on such raids or in
[624] defending the canyon home; those who are chiefs are normally leaders.[3]

Scalps (*gdwawid'g*, scalp; *gdwdwd*, hair) were taken, the cut being
727 made around the margin of the scalp. "Taking the scalp is like taking the hide of a deer; the man who kills the enemy gets the scalp." (The

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[1] Cushing, (a), 550.
[2] Cf. Mohave (Pattie, 133).
[3] Cushing, (a), 551.

scalps are washed with soapweed by an old woman in one tale.) He 727
hangs the scalp from a pole set up in a clearing and calls everyone to
come and dance. Men and women wash and don their gala dress, painting
their faces in any style and color they choose. All the men and
women dance around the pole with the same shuffling sidewise step used
in the social dance. They pat their mouths as they shout. They probably
do not care for the scalp after this dance. It is interesting to note
that while these people have observed a Paiute victory dance they have
not borrowed any of its peculiar features. There is no definite system of [703]
war honors.

Taking the whole scalp is also credited to the Yavapai by my informants 171
(although Corbusier says they took none.) There is no purificatory [727]
rite after killing, nor set speeches made to war parties as among
the Pima. The wolf dance (beating on a hide) of the Lemhi Shoshoni,
Nez Percé, and many Plains tribes, is unknown.[1] Scouts wore neither [714]
wolf hides nor grass headdresses for concealment.

War with the Paiute. This happened at Gwidágwit [Uinkaret Mountains] either 648
before I [Sinyella] was born or when I was a little baby.

There were many Paiute living on the east side of those mountains who wanted 721
to fight. They crossed Hagátalá [Colorado River] a little below Hudltovōkyóvá [pine precipice, Mōho Canyon in the eastern Walapai country]. They came across country north of Pine Spring. Many Walapai lived along there. There they killed many men, women, and children. They repeated this once or twice, killing quite a number of Walapai. The big chief of the Walapai thought that the Walapai ought to cross the Colorado against the Paiute. They talked this over and all agreed. Then the Walapai chief sent several men down here to us. The Walapai said, "Our people want to cross the Colorado and kill the Paiute. Our chief wanted us to come down to persuade some of you to go with us." The Havasupai agreed, and some went with them. They went where the Walapai were already assembled. The Havasupai big chief said to the Walapai, "The Paiute killed a lot of your people so you are angry and want to fight them. That is all right."

Then the Walapai chief said, "We are all ready to go. We know the place to 501
climb down to the river." So all went down directly opposite the mountains 726
to the south side of the river. They got long logs and put cross pieces between them,
making a raft to put their beds, provisions and arrows on. A lot of them took hold of
it on all sides and pushed it before them as they swam. They unloaded it and pushed
it back to fetch those who could not swim. So they ferried all over. They camped 726
there on the north shore over night. In the morning they went up out of Grand Canyon.
The old men pointed out the spot to me from this side and it looks like a good
place to climb out. When they got up on the plateau, they traveled straight toward
those mountains. They found a road a little way back from the rim. When they were
about halfway from the canyon to the mountain, they came upon a Paiute camp. Some
of the strong young men always traveled ahead; if they found nobody, they sent one

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[1] Lowie, (a), 194; Spier, (b), 465.

where others pushed them into the cave. When the entrance was filled, they set fire 726
to the wood and suffocated all those inside: none escaped.[1]

TORTS.

If a man accidentally hurt another, he would give a present to 682
assuage his injured feelings and prevent retaliation. Neither husband nor [593]
wife was responsible to the other for injuries to their children. If a for-
eigner murdered a Havasupai, his relatives would immediately revenge 648
themselves on the murderer. In spite of their intimate relations with the 683
Walapai, fracases do occur; recently knives were drawn in a dispute over [628]
a horserace. If a Havasupai killed a Walapai, his relatives might pay a
blanket, horse, or buckskin to prevent his being killed in retaliation. A
chief would accompany them to the Walapai. Similarly, the Walapai
would offer to pay if one of their number killed a Havasupai. When two 627
men quarrel, as when one sets upon his wife's lover, bystanders interfere
before either comes to grief. A shaman is killed for his misdeeds (p. 289). 683

A theft by a Navaho is instanced wherein revenge is taken by killing 628
and despoiling an innocent member of that tribe (p. 367). Sinyella's 648
father received recompense (a blanket) from a Hopi who stole his Navaho 685
wife (p. 227).

COMPARATIVE NOTES

Data on residence after marriage are lacking for many tribes in this 171 ●
area. Yet there seems to be some local differentiation. Matrilocal resi- 591
dence as the normal procedure holds for the Hopi, Zuñi, Sia, and un-
doubtedly other Pueblos. It is important to know how residence is [423]
affected by male ownership of houses on the northern Rio Grande and
by ownership by either sex in the middle Pueblo area. In Laguna at least there is both matrilocal and patrilocal residence. Dumarest indicates Cochiti as patrilocal, but Starr has it matrilocal. The Navaho may be matrilocal and the Kiowa certainly are.[2] Patrilocal residence occurs in the Southwest among the Pima, Papago, Yuma, Cahuilla, evidently the Western Apache and Northern Diegueño, and perhaps the Gabrielino.[3] Temporary matrilocal residence is found among the Havasupai, Apache (all other groups?), Mohave, Cocopa, Tepecano, Uintah Ute, Paviotso, Washo, Patwin, the Northern Maidu of the foothills, Northeastern Maidu, and occasionally among the Southern Diegueño and Wind River Shoshoni. The Northern Maidu of the Sac-

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[1] Compare the same procedure of the Paviotso (Hopkins, 73 75).

[2] Kroeber, (j), 92; Stevenson, M. C., (a), 20; Parsons, (d), 176; Dumarest, 148; Starr, (a), 43; Lipps, 48; Curtis, I, 123-127; Mooney, (c), 233.

[3] Russell, (d), 194; Curtis, I, 133; II, 23, 86; Gifford, (a), 173, 180; Reid, 11.

171 591 ramento Valley are matrilocal, unless the couple are from different villages when they reside only temporarily with the bride's people. Similarly the Achomawi and Atsugewi have both temporary and permanent matrilocal residence.[1] Whether the rule applies only to marriages within one village in all these cases is important, but the data are not available.

The levirate does not occur among the Havasupai, but is present in 171 587 this region. In addition, the Hopi, Zuñi, Yuma, Kamia, Akwa'ala, Cupeño, and evidently the Luiseño do not practise it. It is, however, the regular custom of the Navaho, White Mountain Apache (by my own observation), Shivwits and Moapa Paiute, Paviotso, and according to Gifford, who lists the tribes, universal in California with the exceptions noted. It is also known from the Hasinai of eastern Texas.[2]

Hereditary chieftainship is exceptional in the Southwest. It is 171 624 true that in a Pueblo such as Zuñi there are no true chiefs, but the officers who correspond, the governor and lieutenant-governor, occupy appointive positions. Members of the controlling priesthood are also selected, and at most there is only a tendency to inheritance in that the sib affiliation of certain officers is fixed. This also seems to be the situation in the eastern pueblos; it is specified at least for Sia and Cochiti. Pima chiefs are also selected.[3] Among the Hopi, however, town chieftainship is hereditary, according to Doctor Lowie. Chieftainship is also hereditary among the Havasupai and Jicarilla, with some suggestion among other Apache and the Navaho.[4] Further east, among Caddoan tribes, the Hasinai chiefs were hereditary, but not so the Taovayas and Wichita.[5]

It is quite possible so far as the Havasupai are concerned that this represents an extension into the Southwest of the hereditary basis prevalent throughout California. It is on record for the Mohave, possibly Cocopa, Gabrielino, Santa Barbara Chumash, Yokuts, Miwok, Patwin, Gallinomero, Pomo, Southern Maidu, Washo, probably Paviotso, Atsugewi, Achomawi, Chimariko, and possibly Shasta.[6] Clan chiefs, [614] who in most instances amount to local group chiefs, hold hereditary office among several southern tribes: Cahuilla, Serrano, Cupeño, Southern and Northern Diegueño, and Luiseño. The last two at least also have village chiefs who do not inherit their positions, but Gifford's belief is that these functionaries are of modern origin.[1] Kroeber writes, 171 624 [614]

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[1] Goddard, (c), 1st ed., 162; Curtis, II, 52; Mason, J. A., (d), 153; Lowie, (h), 275–278; McKern, 238; Dixon, (a), 239–241; (e), 217; Spier, (e), 310; Cocopa and Washo information from Doctor R. H. Lowie.

[2] Kroeber, (j), 90; Hopi and Akwa'ala information from Doctor R. H. Lowie; Sparkman, 214; Franciscan Fathers, 422; Lowie, (i), 275; Gifford, (b), 239; Bolton.

[3] Stevenson, M. C., (a), 168; Dumarest, 198; Russell, (d), 196.

[4] Parsons, (c), 260–262; Curtis, XII, 221; I, 55; Goddard, (c), 1st ed., 160; Lipps, 35; Franciscan Fathers, 422.

[5] Bolton.

[6] Kroeber, (c), 279; Gifford, (a), 168; according to Doctor Lowie's information, the Cocopa have hereditary chiefs; Reid, 7; Mason, J. A., (a), 173, (but the Salinan chief is "selected because of his bravery"); Powers, 174, 246, 352, 371; McKern, 242; Dixon, (a), 223; Faye, 42; Barrett, (b), 3; Lowie, (i), 283–285; Dixon, (c), 215; (d), 301.

> In general it seems that chieftainship was more definitely hereditary in the southern half or two-thirds of the state than in the north central area.[2]

In northwest California (Hupa, Chilula, Yurok, Tolowa) leadership is based on wealth but since this is inherited there is practically the same situation as elsewhere. Much further north the Wishram and Wasco have hereditary chiefs, and from this point northward there is an hereditary class almost everywhere.[3]

Non-hereditary chiefs may be the general rule in the Basin and eastward; at least they are recorded for the Northern Maidu, Klamath, Shivwits Paiute, Lemhi and Wind River Shoshoni, Nez Percé, and Kiowa.[4]

Inheritance of chieftainship as in the Havasupai case does not argue any special authority. Kroeber interprets the Californian data as meaning

> that the authority of the chief was considerable everywhere as far north as the Miwok, and by no means negligible beyond.[5]

But this certainly does not apply to the Havasupai and some of their neighbors (Tointesa^{u} and Shivwits Paiute, Southern Diegueño, Cocopa). Here the function of the chief seems purely advisory, and the stereotyped form this takes among the Havasupai has an even more specialized appearance among the Tointesa^{u}, Navaho, White Mountain Apache, and Cocopa,[6] where the chief begins the day with a shouted announcement of what the people are to do or other general admonitions. There is a possible connection of this crying through the camp with the Pueblo crier's function.

The word-for-word repetition of formal speeches is the custom of groups north of the Havasupai. The Paviotso appoint an individual to repeat the speeches at a council and Mooney observed that these were repeated verbatim after each sentence. Lowie also noted that a story-teller expects his listeners to repeat each paragraph of his tale.[7] Powell's account also suggests a similar functionary when a Kaibab chief tells a 171 537

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[1] Gifford, (a), 168, 173, 174, 181, 187, 193, 202, 208, 213; Spier, (e), 300; Sparkman, 215.
[2] Kroeber, (o), 285.
[3] Goddard, (a), 58; (d), 271; Powers, 45, 66; *Handbook of American Indians*, II, 918.
[4] Lowie, (a), 209; Spinden, 242; Mooney, (e), 233.
[5] Kroeber, (o), 288.
[6] Lowie, (l), 284; field notes on the Cocopa. I add the Navaho and Apache from a somewhat hazy recollection of what I heard among them.
[7] Hopkins, 54; Mooney, (b), 770; Lowie, (l), 288.

171 537 story.[1] It is possible that this is what Powers means by calling the Northern Maidu clown (Sacramento valley and foothill groups) a "prompter or repeater of the chief.[2]" He reports for the Southern Maidu a boy who repeats very utterance of a shaman during his performance[3] and the same occurs among the Klamath. Of the Nez Percé Spinden remarks that

> often a public speaker, or herald, repeated word for word the orations of the chiefs in order that the assembled multitude might hear,[4]

and of another Sahaptin group at Priest Rapids on the Columbia River, Mooney records that speakers talked in a low voice to an "interpreter" who repeated to the audience.[5] The last is also true of the Wishram.

Like the Havasupai the Pima warriors

171 726

> divided into two parties—those who used the bow and those who fought with club and shield.[6]

It would be interesting to know whether this specialization was general in this area.

171 411 At least one type of Southwestern club has a recognizable distribution. This is a cylindrical affair, having a handle of smaller diameter in the line of its axis (Kroeber's "potato-masher" type). It is used with a punching, face-smashing stroke. This seems to be typical of the lower Colorado: Mohave, Chemehuevi, Cahuilla, some Mission Indians, Yuma, Cocopa, Opata, Maricopa, Pima, and Yavapai.[7] Kroeber, however, describes this as the Pueblo type of warclub.[8] The Havasupai ball-headed club is shared with the Cocopa. This is not the well-known type, a ball and handle joined by a rawhide cover, which in this area is used by the Western Apache and Wind River Shoshoni.[9] The Southern Diegueño weapons are a flat curved club and an angular hook.[10]

There is some doubt that the sling is aboriginal in the Southwest, but as the object is widely distributed in Mexico, Central America, and the northern parts of South America, it is possible that it is ancient in the Southwest.[11] It is also found northward through California. The tribes for whom it is recorded are Navaho, Hopi, Western Apache, Havasupai,

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[1] Powell, 116, 128.
[2] Powers, 310; Dixon, (a), 296, 318.
[3] Powers 331; Faye (p. 43) notes a partner or deputy of the captain who speaks in public. This seems to correspond to the chief's assistant of more southerly Californian tribes.
[4] Spinden, 243.
[5] Mooney, (b), 730.
[6] Russell, (d), 120, 202.
[7] Whipple, Ewbank, and Turner, 50; Barrows, 50; Hoffman, in Reid, 29; Trippel, 377; Heintzelman, 43; Russell, (d), 96; cf. Bartlett, II, 237; Corbusier, 331.
[8] Kroeber, (c), 298.
[9] Bourke, (b), 59; Lowie, (i), 240.
[10] Spier, (e), 354.
[11] Mason; cf. Hough, in *Handbook of American Indians*, II, 602.

[Text continues on p 258]

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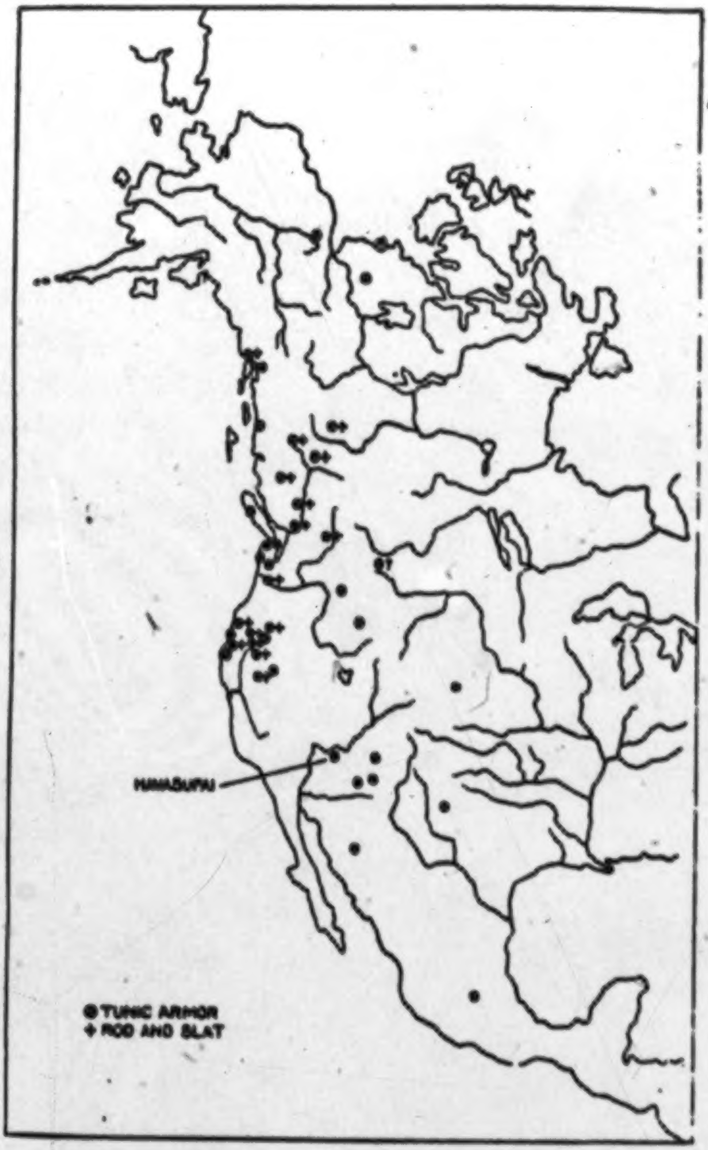
HAVASUPAI
● TUNIC ARMOR
✦ ROD AND SLAT

Fig. 51. Distribution of Tunic, Rod, and Slat Armor in North America.

171 Pima, Luiseño, Clear Lake Pomo, Trinity Wintun, Puget Sound Salish,
411 and on southwestern Vancouver Island.[1]

It is well known that armor is used in a wide area of western North
171 America from Bering Straits into the southern continent. The only
713 variety we are concerned with here is a tunic formed of several thicknesses of heavy skin, commonly joined and stiffened by layers of glue and sand. Something of the sort is in use among Havasupai, Navaho, Western (?) Apache, Zuñi, Opata, Aztec, Comanche, Pawnee, Paviotso, Maidu, Atsugewi, Achomawi, Hupa, Yurok, Wailaki, Shasta, Modoc, Klamath, Takelma, Northern Shoshoni, Nez Percé, Chinook, Quinault, Twana, Chimakum, Klallam, Shuswap, Lillooet, Thompson, Nootka, Chilcotin, Carrier, Babine, Sekanai, Loucheux, Hare, Nass, Taku, Chilcat and other Tlingit, and undoubtedly others.[2] The Blackfoot have a tradition of its use. The Pima evidently do not use armor.[3] To the south quilted cotton armor was used by Mexicans, Toltecs, Mayas, Isthmians, and Peruvians, according to Hough. Slat and rod armor reach no farther south than the Maidu: north from this point these types are used by Achomawi, Atsugewi, Shasta, Klamath, Hupa, Takelma, Chinook, Shuswap, Lillooet, Thompson, Chilcotin, Carrier, Babine, Sekanai, and Tlingit.[4]

So far as the information goes the curtain shield is used in the South-
171 west by the Havasupai, Walapai, and Yavapai only. The Thompson
411 use a large piece of stiff elkhide and the Lillooet roll marmot skins thickly around the left arm. The circular shield used in the Plains and Mexico extends into the Southwest among Comanche, Zuñi, Hopi, Navaho, Western Apache, and Pima. Kroeber adds Yuma, Mohave, and Diegueño to this list.[5] In the Basin-Plateau it is known to the Ute, Wind River and Northern Shoshoni, Nez Percé, Shuswap, and Thompson.[6]

The poisoning of arrows may have been more common than the
171 collected data indicate; at any rate it is a widespread custom. One
278 poison of a curious sort suggests that some cases at least are historically
411 connected. This is made of a liver which a rattlesnake has been made to

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[1] Franciscan Fathers, 73, 325; [illegible], 130; Bourke, (b), 53; Sparkman, 202; Powers, 218, 241; Eells, 632; Moore, 178.

[2] Franciscan Fathers, 458; Hough, (b), 626, 631, 642, 645, 648, Pl. 16, 17; Russell, (a), 79; Winship, 548; Bandelier, (a), 70; Lowie, (i), 245; Dixon, (a), 209; (c), 213; Mason, O. T., (a), 230; Kroeber, (a), 209; Gatschet, (b), 68; Lowie, (a), 190; Lewis and Clark, III, 31; Franchère, 253; Quinault information from Mr. Ronald L. Olson; Gibbs, 193; Spinden, 227; Eells, 633; Teit, (c), 336, 783; (b), 234; (d), 263; [illegible], 234; Morice, (a), 217; (b), 140, 149; Krause, 200; Sapir, (a), 273; (b), 132, 255.

[3] Wissler, (a), 163; Russell, (d), 29.

[4] Hough, (b), 631, 648, Pl. 16; Farrand, (a), 647; Sapir, (a), 273.

[5] Kroeber, (c), 288.

[6] Lowie, (i), 243; Lewis and Clark, III, 19. I have not attempted to complete its distribution to the northward.

strike (White Mountain Apache, Seri, Northern Maidu[1]), or part of a deer struck by a snake (Shoshoni and Bannock), or a mixture of liver and venom (Paviotso, Teton), liver and the juice of the wild parsnip (Achomawi), the spleen of an animal and pulverized ants (Northern Shoshoni[2]). In several of these cases this is allowed to putrefy: the Yuma also used putrid flesh. Others prepare compounds of poisonous insects and plants (Havasupai, Yavapai,[3] and Wishram[4]). Rattlesnake venom is used by the Southern Diegueño, Blackfoot, Lillooet, and Thompson; rattlesnake blood by the Takelma.[5] In addition to these the Jovas, Opata (and the tribes of Sonora generally), Lipan, Navaho, Cahuilla, the Indians of the vicinity of Santa Barbara, Gosiute,[6] and Snohomish are known to have used poisons. 171 278 411

Scalp taking is general in the Southwest, although it seems everywhere a matter of little concern. It is specifically attributed to Havasupai, Yavapai,[7] Tonto and Pinal Apache, Navaho, Zuñi, Mohave, Yuma, Cocopa, Maricopa, Papago, and Opata.[8] In the Basin we may add the Paiute, Uintah (?) Ute, Wind River and Lemhi Shoshoni, and possibly Paviotso.[9] Kroeber states that scalps were taken in the greater part of California, possibly excepting the Yokuts, Valley Maidu, and Pomo, and surely excepting the tribes of the northwestern area. Powers also excepts the Trinity Wintun although ascribing the practice to other Wintun. I have found records for one of the Mission groups, Salinan, and the Maidu of the mountains.[10] 171 727

Removing the entire scalp in the Havasupai manner, not a small patch, is attributed to the Yavapai. This, according to Kroeber, is the general Californian practice, and, by my own information, that of the Klamath and Wishram further north.

The Havasupai do not take the whole head although it might have been expected. This is common in California (specifically Salinan and Patwin), in the Northwest area, and in Mexico it is noted for the Tepehuane.[11] Friederici believes that scalping is a substitute for head taking stimulated by the whites.[12]

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[1] Dorsey, G. A., (b), 186; Bourke, (b), 88; Bartlett, I, 465; McGee, 236-238; Bandelier, (a), 7[illegible] 237; Dixon, (a), 206, 232.

[2] Hoffman, 67-71; Lowie, (i), 245; (a), 185, 192.

[3] Trippel, 376; Corbusier, 332.

[4] Information from Dr. W. D. Strong.

[5] Spier, (c), 333; Teit, (b), 235; (a), 263; Sapir, (a), 273.

[6] Bandelier, (a), 70; Franciscan Fathers, 186; Hooper, 355; Yates, 374; Chamberlin, 308, 394.

[7] According to the Havasupai, although Corbusier (331) denies this.

[8] Smart, 419; Bourke, (d), 26; Franciscan Fathers, 268, 426; Pattie, 132, 139, 165, 199; Parsons, (f), 12; Kroeber, (a), 261; Bartlett, II, 221; Gaillard, 205; Bandelier, (a), 133, 242.

[9] Lowie, (f), 320, 332; (a), 193; (h), 242, 245; Powers, 320.

[10] Kroeber, (c), 207; Powers, 238, 241, 321; Boscana, in Robinson, 330; Mason, J. A., (a), 180; Dixon, (a), 206.

[11] Powers, 221; Bandelier, (a), 95.

[12] Friederici.

A scalp dance is also common in this area. Details are lacking, but
171 we can ~~note the~~ distribution of at least one feature. Kroeber observes
727 that in California (e.g., Maidu, Wintun, and a Mission group), it is usual
535 to hang the scalp on a pole about which the dancers move. This is also the case in the Southwest (Havasupai, Navaho,[1] Zuñi, Papago, Opata), in the Basin (Paiute, according to the Havasupai; Uintah, and Lemhi Shoshoni), and in the Plains at least among Pawnee and Omaha.[2] On the other hand, in the northern Plains the scalp is hung from a stick in the hands of the dancers (Blackfoot, Crow, Wind River Shoshoni, Cheyenne,[3] and to the northwest the Klamath and Wishram),[3] which appears in the Southwest only as one of the Navaho practices. Both usages have a wide distribution.

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[1] Guernsey, 206; Pattie, 155.
[2] Pattie, 44; Fletcher and La Flesche, 482.
[3] Wissler, (b), 458; Lowie, (c), 230; Grinnell, (a), 306-310.

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[439] The third day was occupied with horseracing and trading with five Hopi men who now arrived. The dance was given at night continuing until dawn. It was begun by Navaho and Hopi who sang their own songs.

[349] According to informants it is usual to provide two semicircular shades of branches set upright in the ground for the women to cook under.

534 The drum (*gwetĭlķómid*) is slung under the left arm. It is a section of a hollow cottonwood log; one specimen (50.2–1632A) is 43 cm. high and 30 cm. in diameter, with hide ends laced together. The drumstick (*gwetĭlķómidt'i*) is of the looped type. In one specimen (50.2–1632B) a willow handle, 25 cm. long, terminates in a double loop of 11 cm. diameter, which is bound with cloth, the whole being painted red. Formerly, a skin was fastened over the mouth of a clay vessel containing a little water. Turning the pot over wet the skin and caused it to shrink taut. This was carried in the dance slung under the left arm. They do not drum on baskets.

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597 The speeches delivered by chiefs are in part prayers. Sinyella prayed to the ground, the rocks, and the creek as follows:—

782 înyàmÂtvÎ   má'êváhag'Î'Î   dûyÎÎniyûdjÎk
539 my ground   ground, hear me   let us always live

àhánÎgwayôhag'Î'Î   ma'êváhag'Î'Î
I want always to live well   ground, hear me.

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[171] The position of dance director is informally filled by any of the chiefs: it is not, as among the Mohave, the prerogative of an individual. In fact, the term *kakâ't* (the equivalent of the Mohave dance leader, *kohota*) is applied only to a big chief. Nevertheless, there is a tendency for one man to assume and retain the initiative in this affair. But this has probably no greater significance than the direction over the horseracing assume by Panamida at present. According to Sinyella, his father's two older brothers (the eldest of whom was a chief) were directors, who passed their function to him when they died, but it is doubtful that this function was as formal as his statement would imply.

533 The song leader's position is equally informal. The present leader, Supai Jack, is universally recognized as the best singer, with the most perfect memory and fertility in inventing songs.[1] Many of the songs now sung were invented by his predecessor, Teyadjává (corn thief), a chief, to whom he was unrelated. Teyadjává dreamed he was dancing and singing the following song:-[2]

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[1] About 1900 James saw a Chemehuevi, who may have been a ghost dance advocate, acting as a song leader, (b), 238.

[171] [2] The airs of these songs do not resemble most of those of the Zuñi, nor according to the Havasupai, those of the Hopi; on the other hand, they have something in common with the Mohave songs they sing and also with those of the Southern Diegueño which I have heard.

fetched a rattle that it might begin. While nobody objected to its per- 177
formance, it apparently was not considered in order for it soon stopped. 535

It would be valuable to learn just what knowledge of foreign dances and ceremonies the Havasupai have. Naturally they have seen those of 177
all the neighboring tribes, and certain elements, such as the masked 535
figure in the yearly dance, are demonstrably introduced. But according 648
to Manakadja, while they look on at Hopi dances, they do not participate. Further, while they once tried to imitate them, they stopped because "they did not know much." Navaho as well as Yavapai shamans [756]
have been called in for the sick. I do not know whether the Havasupai participate in the social dances of the Hopi and Navaho, but it seems likely. They take part in Walapai ceremonies and dances on a par with members of that tribe and Paiute dances have been participated in, because, it is said, they are similar to those of the Havasupai.

The toloache ceremony of southern California tribes is unknown. 171
The green leaves of the jimpson weed (*smalgátú'*) are eaten, however. 276
This makes them crazy; they crawl around, shout, and laugh inordinately. They dream of being in crowds who play and dance. Jess said that he hoed down corn, thinking the plants weeds, while under its influence. The old people warn the youths against using the drug. Leaves may be taken from any part of the plant.

COMPARATIVE NOTES

The almost complete lack of group ceremonials sets the Havasupai 171
apart from the Pueblos and the rancheria peoples to the east and south. 796
Both the round dance and the Mohave dance are Great Basin practices. 535
The masked dance is the sole point of resemblance to the typical Southwestern tribes.

The round dance is common to most, if not all, the Basin tribes. 171
As part of the Ghost dance movement of 1890 it made its way into the 535
Plains as well, while the earlier movement of 1870 had brought the dance [177]
into northern California and to the Yokuts from the Mono.[1] The dance as a unit (a circle of both sexes, interlocking fingers, sidewise step) is known[2] to the Havasupai, Walapai, Moapa, Shivwits,[3] Uinkaret (?)[4] and Kaibab Paiute,[5] Pyramid Lake Paviotso,[6] Washo[7], Klamath, Gosiute,[8]

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[1] Kroeber, (*e*); Powers, 62, 381, 387 (confirmed by A. H. Gayton).
[2] My search of the literature is by no means exhaustive.
[3] *Ghost-Dance in Arizona*, 66; Lowie, (i), 302.
[4] About 1880 according to a Havasupai informant.
[5] Seen in 1872 by Dellenbaugh, 178.
[6] Lowie, (i), 306.
[7] Girls' puberty dance (information from Doctor R. H. Lowie, 1920).
[8] Reagan, 40.

171 Uintah Ute, to the Wind River,[1] Fort Hall and Lemhi Shoshoni,[2] Crow,[3] 535 and probably the Yakima, but not the Wishram. The Crow Owl dance differs in that the performers have their arms about each others' waists; the Uintah Squaw dance in that men and women are not interspersed and the step is different. The Pima also have a dance which may be related.[4] In this the dancers stand in a circle with arms across their neighbors' shoulders, stamping their feet and bending their bodies.

Several of the details have parallels among other tribes. The central pole is recorded from the Kaibab, in the Wind River *Naroya* dance, and in the Ghost dances[5] among the Karok, Klamath, and the Plains tribes. Its use in the Ghost dance when men climbed to the feathers tied at the top suggests the *Notish* mourning ceremony of the northern neighbors of the Luiseño, where rivalry is shown in climbing a painted pole to which crow feathers and baskets are attached.[6] But there is a more suggestive relation in the tale of the Gabrielino which describes a visit to the land of the dead by a man who in a test is made to climb a tall pole to bring down a feather tied to the top.[7] At Taos clowns climb a pole for food, but I do not know that there is here any association with the dead.[8] The very characteristic way in which the dancers stand singing softly, then circle about to stand again, between songs, has been noted for the Gosiute by Reagan, the Kaibab, the Walapai, and in the Ghost dance by Mooney.[9] Lowie has also observed the curious reluctance of the Lemhi dancers to begin, and the whipping of Crow Owl dancers and those of the Moapa and Southern Ute who are slow to join the Bear dance.[10] The dropping out of women partners from the circle between dances is the custom in the Lemhi *Nuakin* and the Gosiute round dance. They are paid by the men and sometimes reciprocate in the Cree dance of the Lemhi and presumably the Fort Hall Shoshoni, in the Wind River Women's dance,[11] and in the Navaho war dance.[12] The foxskin worn [301] pendent from the back of the shaman's belt in the 1918 dance has its analog in the costume of the masked dancers among the Pueblos, as at Zuñi, and among the Navaho.[13] It is not clear how frequently other

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[1] Lowie, (f), 822, 817, 830.
[2] Lowie, (a), 217–223.
[3] Lowie, (d), 208.
[4] Russell, (d), 170, 289.
[5] Mooney, (b), 809, 921; Powers, 42
[6] Du Bois, (c), 108, 148.
[7] Reid, 24. (Reid's account, published in 1885, is earlier than the period at which the ghost dance reached the Havasupai).
[8] Goddard, (c), 2nd ed., 108.
[9] Mooney, (b), 920; Dellenbaugh, 178; *Ghost Dance in Arizona*, 98.
[10] Lowie, (l), 301; (f), 823.
[11] Lowie, (f), 822.
[12] Parsons, (b), 467; *Franciscan Fathers*, 270.
[13] Tozzer, (a), 150; *Franciscan Fathers*, 277.

[Text continues on p. 272]

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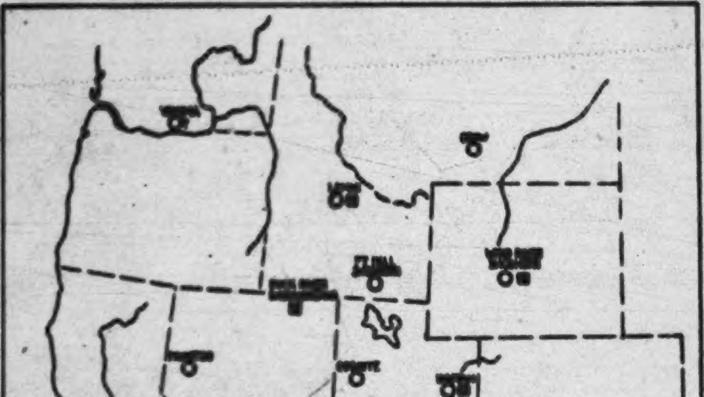
○ ROUND DANCE
▨ BEAR DANCE

Fig. 53. Distribution of the Round and Bear or Mohave Dances.

171 It is not clear how frequently other tribes use a notched rasp or other substitute for the drum, but it is
535 specified that no drum is used by the Gosiute and Uintah Ute. Nor is it
[534] used by the Lemhi in the *Nuakin* and the Wind River Shoshoni in the *Naroya*, although it is used by them in very similar dances, and no drum is mentioned in connection with the Moapa and Shivwits accounts.

Masked performers are characteristic of Pueblo, Apache, and Navaho
171 ceremonials, and perhaps of other Southwestern tribes, as they are to the
535 south in Mexico. Without a complete knowledge of these, comparisons with the Havasupai dancers cannot be attempted. I note, however,
532 that sack-like masks are used by the Zuñi, White Mountain Apache, and Navaho.[1] Masks probably do not occur to the north and west although there is something of the sort among the Pomo and their neighbors. The Pueblo dancers also carry branches in their hands.

The Mohave dance is the Bear dance of the Basin tribes. This is
171 known, at least by another name, to the Moapa and Shivwits Paiute,[2]
535 Southern Ute, Uintah Ute, Wind River[3] and Lemhi Shoshoni, the Paviotso-Shoshoni of the Duck River Reservation,[4] and, according to Southern Ute information, to the Navaho and (Jicarilla?) Apache. My information adds the Havasupai, Walapai, and, by inference, the Mohave. There is even some suggestion of it in the Yuma mourning ceremony.[5]

The dancers are always of both sexes, but not always segregated in two lines that face each other. The Moapa, for example, form couples or trios facing or dancing abreast; in the Wind River Bear dance, at least, trios always face their partners; Lemhi men and women form only one line. Uintah performers sometimes dance as couples, as well as in line formation. The step is always the same; the lines trot to and fro, save that the Northern Ute advance toward each other. Partners are chosen by the women in most cases (Southern Ute, Northern Ute, Wind River Bear dance), but either sex may choose among the Lemhi, in the Wind River *narupinaru*, and sometimes among the Moapa. The Havasupai do not dance as partners, so far as I know.

The principal departure of the Havasupai dance from the others is
171 in the musical accompaniment. All the others use the notched rasp.
533 In fact, the Havasupai use of the rattle, stationing the leader who bears it in the middle of the line, ending the song with the ejaculation ha' ha'

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[1] Franciscan Fathers, 383, 386; the Mohave have no masks [Kroeber, (a), 282]. The Pima and the Yaqui of Sonora make use of wooden ones [Russell, (d); 107]; *Ghost dance in Arizona*, 67.

[2] Lowie, (i), 299–301.

[3] Lowie, (f), 823–831.

[4] Lowie, (a), 210.

[5] ". . . . . Opposite lines of Indians, who in the day-time march to and fro over the open ground. One group is provided with grotesque clay images . . . . fixed upon poles and carried high in the air by young bucks. An old squaw walking backwards cast handfuls of corn upon the images . . " (Trippel, 8).

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[539]

ha', and continuing with rapid rattling after the end of the song, are all clearly taken over from the Pueblos.[1]

A few further points will bring out the nature of this dance complex, though they do not pertain particularly to the Havasupai. The time at which the dance is held is much the same: Lemhi, spring; Northern Ute, February or March; Southern Ute, very early spring; Wind River Shoshoni, to bring warm weather. Lowie observed the Moapa dance in August, however.

A refusal to dance nets a whipping among the Southern Ute and Moapa. It is more serious for the Duck River man, who will be overtaken by death, and the Lemhi, who will be killed by a bear. In the Klamath Ghost dance, one who failed to dance would be turned to stone. The Moapa, Uintah, and Wind River dances terminate when someone falls exhausted; the Uintah believe that the bear will help such a one in sickness and the Wind River, that the dancer must imitate the bear lest he be killed by him.

The Uintah and Southern Ute erect a circular brush enclosure for the dance; the Wind River, Shoshoni, Moapa, Havasupai, and Walapai do not.

There is some suggestion of the history of this dance. The Ute are credited as the source of their dance by the Duck River people and by some Wind River Shoshoni. The Shivwits state that it has been recently introduced from the Uintah Ute, the Moapa receiving it in turn about 1910–12. The dance among the several Ute divisions is, to be sure, the most serious affair. The Shivwits have also recently added this dance to their mourning ceremony,[2] similar to the Walapai and perhaps the Mohave and Yuma practice. But the mourning ceremony came from California, reaching the Moapa perhaps fifty or sixty years ago and the Shivwits much later. Are we to assume that the Mohave did not have this dance, or at least include it in the mourning ceremony, until that time? The association of the two corresponds to the change noted by Powers as having occurred in 1860–70 among the Miwok, who introduced or substituted dancing and dirges for the annual cry. His brief description suggests the Bear dance: "others, with arms locked, pace to and fro in a beaten path."[3] The suggestion is that the mourning ceremony was spreading eastward and northward from the Mohave; the Bear dance westward and southward from the Ute. So far as the Walapai are con-

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[1] Du Bois notes a similar expression closing a circling dance of the Northern Diegueño. The dance is said by the Luiseño to have been introduced among the Indians of the interior as part of the Chungichnich rites (b), 137.

[2] Lowie, (i), 279. The Moapa use the round dance in this connection.

[3] Powers, 353, 355.

171
535 cerned they may have obtained the dance from the Mohave at a much later date than the mourning practices.

The trifling use to which the Havasupai put jimpson weed hardly
171 suggests its place among the southern Californian tribes. It is essen-
276 tial to the initiation ceremonies of the Yokuts, Salinan, Kawaiisu, Luiseño, Diegueño, Juaneño (or Gabrielino), Cupeño, and Cahuilla.[1] But it is not confined to use in the toloache cult even in southern California: the Mohave and Chumash know it and the Yokuts and Cahuilla use it for curing broken bones. This suggests the Zuñi who apply it externally to wounds.[2] They also use it as a narcotic, to commune with the dead, and to obtain visions of thieves. The Navaho also evidently use it for detection.[3] Walapai shamans prophesy while under its influence and the same applies to the Aztec, who also used it ceremonially, if Safford's identification holds.[4] It is also known to the White Mountain Apache and Paiute, and is a source of power for the Tepecano.[5] Either of two possibilities is open; that the Southwestern use represents an attenuated form of the Californian initiation ceremonies, or, as seems more likely, that it is part of a general use of the plant which was locally connected with the boy's initiation rites in southern California.

Some facts suggest that the double-headed drum of the Havasupai
171 has a limited distribution. The Zuñi, Hopi, apparently Nambé, Pima,
534 Maricopa, Huichol, and Wind River Shoshoni make similar double-headed drums of cottonwood logs. In the same area the Navaho use only a cooking pot with a skin stretched over its mouth or an inverted basket. At least the drum is not a Californian instrument.[6]

The looped drumstick is not universal. It is recorded as used by the Navaho, Western Apache, Hopi, Zuñi, Shoshoni, Mandan, and Tlingit.[7]

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[1] Kroeber, (f), 8, note 17; (g), 65; (u), 314; Mason, J. A., (a), 169; Sparkman, 221; Spier, (e), 316–321; Boscana, in Robinson; Gifford, (a), 196; Hooper, 345.

[2] Stevenson, M. C., (b), 385–7.

[3] Parsons, (a).

[4] Bourke, (d), 183; (e), 455; Safford, 550, 553.

[5] Hrdlička, (f), 25; Palmer, 650; Mason, J. A., (d), 148.

[6] Hough, (a), 278, 294; Goddard, (c), 2nd ed., 108; Brown; Russell, (d), 167, states that only an inverted basket is used; Lumholtz, (b), 318; Lowie, (a), 200; Franciscan Fathers, 289; Guernsey, 296; Matthews, (b); Spier, (e), 349.

[7] Franciscan Fathers, 289; Bourke, (e), 462; Stevenson, J., Fig. 551. A Zuñi specimen is in the Anthropological Museum, University of California, a Shoshoni one is in the Museum of the American Indian, and a Tlingit in the Washington State Museum; Densmore, 8, Plate 9.

parents have eaten portions of deer carcasses killed and partly devoured 756
by wolves or mountain lions, or of rabbits abandoned by eagles. The baby is sung over by the doctor who knows the songs about these animals or the eagle[1] as the case may be. Potions are not administered by the doctor nor by any other. The eagle song is as follows, the last line being repeated three times:— [539]

sakáhútaŋa ásá
eagle eagle
ínyáhátōŋe ínyanyáhátá
my domestic animal my dog
íyáwalōŋe yuwalá
you concern my heart my heart
huyuwí'nōŋa hu
head head

Desoumalaua's father was a snake doctor. A man who had been 752
struck in the calf by a rattler came to his house. He immediately made 755
short incisions all about the puncture, tied a ligature about it, and sucked out the blood. At night he sang just as a shaman does, waving a feather (the longest from the eagle's wing, covered with white gypsum) over the wound.[2] A ring of sagebrush (*Artemisia ludoviciana*) is put around the limb to draw out the poison, not the blood, on the ground that the snake may know and use this plant. The snake doctor can cure the bites of the three snakes recognized as poisonous, viz., áluwí'tavá, the prairie rattlesnake (*Crotalus confluentus* Say), halwí'tá, the Pacific rattlesnake (*C. oreganus* Holbrook), áluwíhalái'dái'dá, the western striped racer. (However the last, a fierce fighter, is not a venomous snake).[3]

One who was struck by a snake would catch it and, grasping each 755
jaw, attempt to split it in two. If the snake split quite to the tail, he would recover, otherwise he would die.

The shaman's rattle is a gourd, obtained from the Hopi. Each [439]
shaman presumably has his own, but one that belongs to a layman 756
may be borrowed by those who want to cure. (One such rattle was also 534
borrowed for the Mohave dance). They may also be inherited as part [428]
of the shamanistic properties.

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[1] The Maricopa have eagle doctors "because they are afraid of eagles" [Mohave information, Kroeber (a), 173]. [171]

[2] Another time the informant said that this was a Walapai practice only.

[3] These are probable identifications made by Miss Edna M. Fisher from native sketches and descriptions. In addition my informant recognized three non-poisonous snakes: [illegible], the Arizona gopher snake (*Pituophis catenifer rutilus* van Denburgh), [illegible], the Arizona king snake (*Lampropeltis pyrrhomelaena* Cope), and [illegible], possibly the spotted night snake (*Hypsiglena ochrorhynchus ochrorhynchus*).

534 756 The dried gourd is mounted on a wooden shaft which projects entirely through it. It rests against a neatly fitting collar cut on the handle and a thong wound around the protruding end of the shaft keeps it from coming off. Little holes are drilled in the gourd to allow the fibers inside to drop out, so that the sound will not be muffled. The holes are placed in more or less regular longitudinal rows. Only the shamans know what significance they have.[1]

Turtle shell rattles, dewclaw jinglers, baskets to serve as drums, and whistles are not used by the Havasupai.

MEDICAL PRACTICES

757 Besides the shamanistic performances, there is some matter of fact knowledge of curing.

758 Care of the sick is cursory, or rather there seems to be no special provision for their care. They share the house and the bedding with the rest of the family; the common family dishes are presented to them to select from. Still there is some solicitude. They are not left unattended; an old woman relative may be seen seated by a sick child, fanning the flies away, and arranging shade for his protection. Yet, the conditions are so adverse that it would seem that only the strongest could survive a serious illness.

752 [755] Wounds are sung over in the sweatlodge by the wound doctor, who knows the appropriate song, while he blows on them. The blood is squeezed from all sides toward the cut until no more flows. If the wound suppurates, similar pressure is applied until there is a flow of healthy blood. Boils or blood blisters are cut open and the pus squeezed out. Usually a wound of any sort is not dressed, but sometimes clear white piñon pitch liberally smeared on a handful of plucked rabbit fur is applied. After a day or so, when the wound itches, this is removed and the pus squeezed out. Four or five renewals are necessary before it heals. Amputations are unheard of.

Scorpion stings are treated similarly to snake bites and possibly by the snake doctor alone. Incisions are made about the ligated wound and the blood sucked out. Dog and rat bites are not treated. People die quickly from skunk bites; they cannot be cured.[2]

A fractured arm is set, bandaged, bound between thin splints, and tied close to the body. Usually the arm is laid in a trench, while lying

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[171]

[1] But they are not the star patterns of the Navaho. [Compare Tozzer, (a), 29–32.]

[2] The Navaho also maintain that the bite of the skunk is poisonous (Franciscan Fathers, 142) and the Rio Grande Mexicans that it causes rabies [Bourke, (f), 12[illegible]]. This is commonly thought to be folklore, but E. W. Nelson states (476) that the spotted skunk unquestionably communicates rabies.

on the ground, and covered with a mixture of hot ashes and wet sand. 752
Sometimes it is blown on in the sweatlodge by a fracture doctor who knows the songs: the heat helps it. Strict continence must be observed, otherwise the patient will sicken.[1]

A few medicinal plants are known, but, on the whole, internal 278
medication does not appeal to them.[2] Leaves of cedar and of two un- 757
identified plants which grow on the plateau (*ágwáθíká* and *tcikáyálá*) are boiled together for a cold. This loosens the mucus and acts as a laxative. The leaves of *Pluchea sericea* are chewed to relieve irritation in the throat, or they are boiled. A copious draught of Mormon tea (*Ephedra viridis*) is taken to clear the bowels, and sometimes to induce vomiting, in cases of bowel complaints. The root of an unidentified plant, from the highest part of the plateau, Wolf's medicine, (*hatágwílá isáma*), is boiled and given to infants in the same way. For slight distempers, rheumatism, and headache, an unnamed plant (*Lippia Wrightii*) is boiled and taken copiously. Walapai use this against gonorrhoea.[3] [171]

A bleeding nose is bathed with cold water. Blisters of burns are 757
pricked open with a twig: red paint is dusted over the scorched surface. For earache, coals are buried in the earth beneath the head of the sufferer's bed. Piñon pitch is put in the cavity of an aching tooth and the mouth rinsed with cold water, or the tooth is pulled out with a cord. [752]
Bee stings are squeezed and salt rubbed in.

Powdered red paint is dusted on the bodies of infants to prevent [751]
chafing. The paint mixed with grease is used to soothe the chapped hands, etc., of small boys.

The Havasupai, like the White Mountain Apache, does not thrust [171]
an injured finger into his mouth, though he will shake it to relieve the pain [752]

PRAYERS

A man who wants health, prosperity, or success addresses the earth, 782
rocks, trees, water, air, and wind. He says: "We want to prosper. We 778
wish to be like the earth or rock, to live to be old." The sun is addressed at sunrise: "Sun, my relative, look at us: help us. Misfortune may befall my possessions; perhaps someone will fall sick. You, sun, ward this off. You know how to help us prosper." In praying to the sun, a man draws his hands down his face as he blows to brush the evil away.[4]

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[1] Those struck by lightning are not bone-setters as at Zuñi. In fact, my informant had never heard of anyone so struck save two Walapai who were killed. [171]

[2] This may be related to the Cahuilla dislike of taking medicine internally (Hooper, 351).

[3] Buckthorn is not used medicinally.

[4] See also the prayers used in planting, p. 102, in stringing a bow, p. 180, and to the sun in hunting, p. 110.

782 Inyáln,ĭkádjădj máhánĭg mĭdjálĭgĭg gwipagáva'ámáwiwŭg
778 sun my relative be good coming out do something good for us

539 pámatáhatáhódög gwégavá'awĭ'k
make me work so I can do anything I wish in the

matönyúvĭg ĭ'ĭ'nyúg teyădjáhwálĭg ha'aská'lĭgá.
garden I hoe I plant corn I irrigate.

Inyán,ĭdj má'ahánĭg miyámĭg θömádópmĭg
you, sun be good going down at sunset

iyágĭgáasmávĭdj túyá áhánáhag'ĭg'ĭ
we lay down to sleep I want to feel good

ásmámĭdjáálĭgĭg. vamá'ámámiyúdjá
while I sleep you come up. go on your course many times

áhánápa máwíwug.
make good things for us men.

tuĭ'nyávává'áyúg In,údjĭgwa'yóhag'ĭ'ĭ.
make me always the same as I am now.

171 Prayers are also addressed to the springs where prayersticks are
778 planted, but not to the dead nor to the mythical beings in Pueblo style.
782 Prayer plumes are never placed in the tilled fields. "We have a creek to irrigate with: the Hopi plant prayer plumes in their fields because they have none and have to pray for rain all the time" (Sinyella). Such springs are located on the upper canyon level and on the plateau. But the practice has fallen out of use because reservoirs are now made on the plateau.

778 Prayersticks are planted in sets of three. These consist of a trimmed stick, 12 cm. long, from the upper end of which a bunch of down hangs by a short cord. Eagle down is tied to the first stick, turkey down to another, and that of a small piñon bird (*adadvdau*) to the third. These are thrust into the ground at the source of the spring, a circle is marked with corn-
539 meal about the source, and a prayer is offered:—
778

782 áhapö'k Inyahává matĕ'kmidjálĭgá atiyéhag
spring I drink plenty more come I feel glad

áθtha.
I use it to drink.

Prehistoric stone ruins are said to have been built by the mythical 172
beings long ago. The Havasupai do not dig in them as a rule, because 778
they are afraid—the men-animals who built them are dead. Potsherds may be handled, but not used; stone implements, however, may be used as tools and protectors against bad luck.

COMPARATIVE NOTES

The religious life of the Havasupai is relatively meager in comparison 171
with the Pueblos, in which respect they are one with the Basin tribes. 756
In fact the resemblance is very close with both the Basin-Plateau and Californian peoples in the relative prominence of the shaman, the acquisition [787]
of power through dreams, not visions, and an hereditary bias to shamanism. Visions do not figure. Only in the slight use of prayer [782]
plumes and prayers for rain and fertility for their crops do they resemble the typical Southwestern peoples.

Killing an unsuccessful shaman as a matter of course is a practice typical of the lower Colorado tribes. By this I mean something more definite than the universal threats against malpractice and supposed evil intentions. This trait is shared by the Pima, Yuma, Mohave, Cahuilla, Yokuts, Miwok, Mono, and Shasta.[1] The Western Apache and the Southern Ute[2] seemingly resemble the Havasupai in that there may be retribution for the loss of a patient, but it does not always follow. It is not always easy to judge from the accounts just how automatic this reaction is, but it is clearly a regular procedure of the Mohave, Yuma, and Pima.

Gourd rattles are apparently limited to the Southwest, being un- 171
known to most Californian and Basin tribes. I have found records of 534
them among the Navaho, Hopi, Zuñi, (and they are probably used in other pueblos), Pima, Yavapai, Mohave, Yuma, Chemehuevi, Koso, Cahuilla, and Southern Diegueño.[3] The last say it has been recently introduced from the Mohave through the Yuma. Doubtless further search in collections and the literature would augment this list. There seems to be some variation in the mounting and decoration of the gourd. The Pima, Yuma, Cahuilla, and Koso, like the Havasupai, mount it on a wooden handle: the Southern Diegueño do not. Navaho, Pima, Koso, Cahuilla, Southern Diegueño, and Havasupai arrange the perforations

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[1] Hrdlička, (f), 224; Trippel, 571; Russell, (d), 262; Kroeber, (n), 197; (l), 479; Bourke, (a), 174; Hooper, 339; Powers, 354, 380; Dixon, (b), 479.

[2] Bourke, (c), 466; Lowie, (l), 293, 294.

[3] Tozzer, (b); Hough, (e), 293; Stevenson, M. C., (b); Russell, (d), 91, 168; Corbusier, 333; Trippel, 577; Kroeber, (g), 62; Spier, (e), 349.

171. of the gourd in regular patterns; the Mohave and Southern Diegueño
534 paint it, the Chemehuevi do not.

The use of red paint powder to protect the skin from chafing, etc.,
171 may not be general. The few instances of its use noted are Navaho,
751 Pima, and the Puget Sound Salish.[1] The Zuñi and perhaps others use cornmeal for dusting the skin of infants.

The Havasupai use of prayersticks represents an elaborate Pueblo
171 practice in an attenuated form. I have not attempted to isolate the
778 analogs of the local type elsewhere for lack of special knowledge. The
782 distribution of prayersticks among the modern tribes indicates that their use is confined to the Southwestern tribes and those of northern Mexico at least. Prehistoric examples have not been reported from outside of this area so far as I recall. Their use among the Pueblos is well known. They are also used by the Navaho, San Carlos Apache (who place eagle plume sticks in the cornfields), other (?) western Apache (used in a hunting ceremony), Papago, and perhaps the Pima.[2] The ceremonial arrows of the Huichol, Tepecano, and Cora are certainly closely related forms. The Tepecano also deposit in the springs plumed sticks used in curing.[3] The Northeastern Maidu set up sticks on the graves of chiefs which are to all intents identical with the Havasupai prayersticks. This suggests that further examples may be found among the western Basin tribes.[4] At any rate the practice of planting the plumes is not Californian nor Plains-like.

224 The hunting charm, a calculus from the paunch of a deer, is used in
171 precisely the same fashion by the Yavapai and Northern Maidu.[5]

The bullroarer is rather generally distributed over the Southwest,
171 the Basin, and perhaps the Plains. It does not appear to be generally
534 used in California. I have not examined the literature for its occurrence
789 beyond these limits. The Havasupai association of it with the rain is of
778 course characteristic of the Pueblos (Hopi, Zuñi, and the Rio Grande Pueblos), San Carlos Apache, and Papago.[6] The Arapaho and Klamath have an analogous usage, to produce wind.[7] For the Gros Ventre, North-

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[1] Franciscan Fathers, 70; Russell, (d), 160; Haeberlin und Günther, 23.

[2] Franciscan Fathers, 396–398; Bourke, (e), 502; (c), 439; Mason, J. A., (e), 15; Russell, (e), 82, 106 ("... rain ceremonies, during which the medicine-man deposited the tails of mountain sheep together with eagle feathers at springs").

[3] Lumholtz, (c), II, 124, 197, 203–209; Preuss, Tafel VII ("Regen-opferpfeile"); Mason, J. A., (e), 349; (d), 131.

[4] Dixon, (a), 244. The probability is perhaps strengthened by the resemblance to the Havasupai plumes of the Cheyenne hair ornaments worn in the hand game played by Ghost dance converts. (Field Museum specimen 90872). These may have come from the Basin with the Ghost dance.

[5] Corbusier, 336; Dixon, (a), 266.

[6] Hough, (e), 204; Bourke, (e), 477; Stevenson, M. C., (b); Franciscan Fathers, 414; Mason, J. A., (e), 16.

[7] Kroeber, (b), 396.

ern Maidu, and Shivwits Paiute it is only a toy.[1] The Ute also know it. 171
The Luiseño and Diegueño use it to summon people ceremonially.[2] 534
It has ceremonial usage among the Pomo. While the Arapaho model 789
with its serrated edges resembles the Havasupai, it may be that this is 778
a device to increase the sound independently arrived at.

The distribution of the notched rattle, or musical rasp was briefly 171
discussed by Lowie years ago. It is now possible to augment his list of 534
tribes who use it: Havasupai, Hopi, Zuñi, Rio Grande Pueblos,[3] Jicarilla, Navaho, Pima, Papago, probably Yaqui, Tarasco (?), Huichol, and Aztec specimens have been found in the state of Mexico.[4] In the Great Basin and Plains its occurrence is among the Moapa, Paviotso, Gosiute, Uintah Ute, Lemhi Shoshoni, Klamath, Upland Takelma, Wishram, Wasco, Assiniboin, Cheyenne, Wichita, and Tonkawa.[5] The Paviotso also have a form which should undoubtedly be included; this is a stuffed hide wound from end to end to form the rasp. Its distribution appears to be along the western plateaus with some extension into the Plains. It is not used by Californian tribes with the sole exception of the Salinan.[6]

The rasp is scraped with a scapula by the Hopi, Zuñi, Jicarilla, Papago, and Huichol; elsewhere a stick or bone of another sort is used. The Hopi rest the rasp on a gourd resonator; the Havasupai, Jicarilla, Pima, Papago, and Klamath use an inverted basket, the Wichita a rawhide. The Gosiute draw the notched stick across the edge of an inverted basket. This suggests the Southern Diegueño reference to scraping a basket.[7]

The Havasupai associate this rasping sound with the frog and the 171
production of rain. They have also a mythical reference to tearing a 534
frog apart and thus causing a flood. These have analogs elsewhere. 789
The Pima call the notched rattle a "rain stick," for rubbing it brings rain. 821
The Northern Shoshoni believe that killing a frog and placing it on its 825
back will cause rain; the Northern Maidu that chasing it will come to the same end.[8] There is also a connection of the frog with fog and thunder suggested in a Southern Ute myth, the frog and a flood in one of the Luiseño, and an association of the frog and rain by the Klamath.[9]

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[1] Dixon, (a), 209; Lowie, (l), 237; Kroeber, (h), 191.

[2] Sparkman, 211; Spier, (e), 324–326.

[3] Hough, (e), 293; Stevenson, J., Fig. 561.

[4] Russell, (a), 370; Curtis, I, 56; Goddard, (b), 263; (c), 170; Franciscan Fathers, 402; Hrdlička, (e), 41; Russell, (d), 167; Davis, (b), 169; Lumholtz, (c), II, 155, 429; Saville, (c); Starr, (b).

[5] Lowie, (l), 209, 302; Reagan, 30; Lowie, (a), 219, 220; Sapir, (c), 206; Dorsey, G. A., (e), 17.

[6] Hopkins, 56; Mason, J. A., (a), 158; Kroeber, (o), 277.

[7] Brown, 609; Spier, (e), 340.

[8] Lowie, (a), 232; Dixon, (a), 266.

[9] Lowie, (k), 55; Du Bois, (c), 156; compare the Omaha association of the turtle and frog. (Dorsey, J. O., 240).

DEATH CUSTOMS

763 Relatives gather before the death and begin to cry: this however
[171] does not seem so stereotyped a procedure as that of the Mohave[1] and
Walapai. The corpse is laid with his head to the northwest, his hair is
764 washed, face painted, and he is dressed in good clothes contributed by
relatives and friends. Sometimes the face is covered. The following day
everyone gathers to wail for several hours or perhaps the whole day.
[624] The chiefs talk, particularly to the relatives, admonishing them to care
for the property of the deceased and not to commit suicide. The mourners
[171] do not sing or dance as they know the Mohave and Walapai do.

Formerly, the body was placed on a pyre at some distance from the
[178] camp, together with the choicest possessions of the deceased. Nowadays it is buried with these objects among the rocks of the lower canyon
level somewhere near the falls below the village. After a few days such
768 of the dead man's belongings as were in the camps on the plateau are
brought down and burned on the grave. Two or three good horses are
killed at the grave (their bodies are probably not burned) or they are
pushed over the cliff. Saddles are often burned or destroyed; sometimes
they are left on the horses. On the return of the funeral party a corpse
[783] bearer might wash his hands, or bathe, and possibly wash his clothes.
There is no formal purification, nor are those who come in contact with
the corpse shunned.

Cremation began to go out of use sixty years ago, the last body being
764 burned twenty-five years back. The change was not suggested nor
178 enforced by the whites. "We wanted to change: we thought burning
was not a good way." I am not certain that the change coincided with
the introduction of the Ghost dance influences in 1870.

Formerly the house of the deceased was burned. Now, as a rule,
768 the brush covering alone is burned, the timbers being saved to re-build
178 elsewhere, though there is no great change in location. The modern
frame house is abandoned for some time. Thus, when their boy died in
1918, Prince and his family went to live with his wife's father. In 1920
he built another house across the creek from the old one, and in 1921 he
was living part of the time in both structures.

Farm land which belonged to the dead is allowed to lie idle for a year
768 or two. This is not always the case, for Panamida planted in Nina's
[183] fields (his older brother's daughter) the year following her death; though,
[428] to be sure, the field really belonged to him. Should there be dependants,

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[1] Kroeber, (a), 281.

however, half the crop only is cut down and burned; the remainder goes 768
to the survivors. Fruit trees may be owned independently of the land on 428
which they stand. The owner may make a dying wish that they be cut [763]
down and burned.

Mourning may be continued by a widow for a half year or longer 765
before she re-marries, though some marry within a few months. During [587]
this period she takes no particular interest in her appearance.

There are no mourning ceremonies (cf. the Walapai mourning, p. 267). In the case of Fred's death in 1919, however, most of the tribesmen met to wail for an hour or so a week after he was buried. This is [177]
said to be the first time that there has been a mourning ceremony "like the Walapai", but there was no dancing, etc. The so-called Mohave dance (p. 267) has been taken over from the Walapai mourning ceremony, but it is not used in mourning.

No offerings are made to the dead. There is no great repugnance to 769
talking about them, but they do not like to do so freely. They never go near the burial ground, never acceded to my request to visit it, and always took my hints at searching for myself somewhat amiss. Mr. Ceasler, the [761]
former agent, has noted that they are quite suspicious of the circumstances of death occurring away from the house.

COMPARATIVE NOTES

Two methods of disposing of the dead are in vogue in this general 171
area, cremation and burial. These have well-defined areas of distribu- 764
tion. The first area of cremation covers western Arizona, southern California, and the peninsula. This includes the Havasupai, Walapai, Yavapai, Tonto Apache, Yuma-Apache, Apache-Yuma, Mohave, Maricopa, Yuma, Cahuilla, Serrano,[1] Luiseño, Diegueño, and the people throughout Baja California (or at least most of them[2]). Kroeber's map[3] showing the distribution of the practice in southern California includes Cupeño, Juaneño, Gabrielino, and Fernandeño, for whom I have no data. The Moapa and Shivwits Paiute on the margin of this area both cremate and bury. The Pima, who normally bury, cremate those killed on the warpath, and the Navaho sometimes burn the body with the lodge. The Zuñi now bury and have been doing so for some time, but Castañeda recorded that in 1540 they cremated.[4]

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[1] Information from Doctor W. D. Strong.

[2] Curtis, II, 52, 72, 83, 92, 100, 114, 117; Bourke, (c), 501; Corbusier, 227, 337; James, (e), 148; Kroeber, (a), 281; Bourke, (a), 184; Allen, 615; Russell, (d), 202; Bartlett, II, 202; Cremony (103) states that the Maricopa bury; Trippel, 582; Hooper, 343; Davis, (c), 94, 96; Sparkman, 226; Kroeber (f), note 13; Baegert (387) gives burial for Baja California.

[3] Kroeber, (o), 295.

[4] Lowie, (l), 278; Russell, (d), 194; Curtis, II, 10, 110; Hrdlička, (e), 45; Cremony (102) gives cremation as the universal practice of the Pima; Lipps, 49; Stevenson, M. C., (b), 205; Winship, 518.

[Text continues on p. 295]

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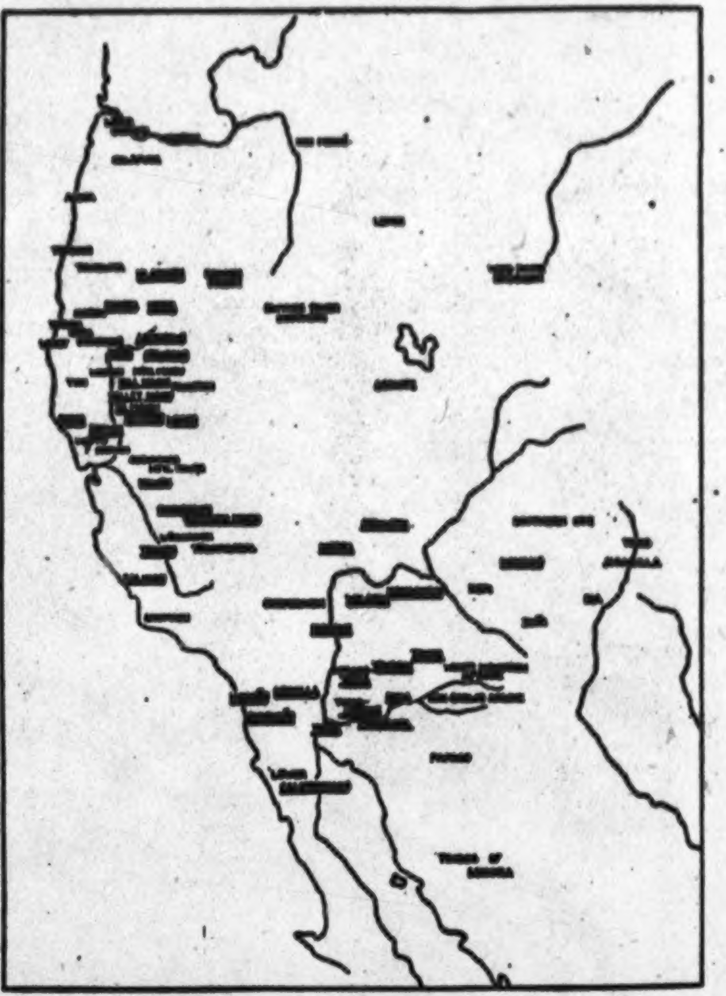

Fig. 84. Distribution of Cremation and Burial. Cremation occurs where names are underscored; cases where both practices occur (or where the evidence conflicts) are lightly underscored.

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Cremation occurs again in central and northeastern California. I find this on record for the Yokuts (but burial for the Wükchumni), Pomo, the Patwin near Clear Lake, Southern Maidu, Nemshoo,[1] Washo, Modoc, and Klamath.[2] Both practices are credited to a number of groups in this region. Cremation is favored by Salinan and Miwok, burial by Chukchansi and the Northern Maidu of the foothills. Two Western Mono groups (Balwisha and Waksachi) buried, but did cremate during at least one epidemic.[3] Burial is the regular form of the Northern Maidu of the Sacramento Valley, Atsugewi, Achomawi, and Shasta, all of whom cremate those who die away from home. The evidence for the Yana conflicts. Certain Miwok (Cosumnes and Mountain Miwok) are said to bury. Wappo myths refer to cremation.[4] Kroeber, who commands unpublished data and is better able to interpret this material, indicates cremation for the Yahi alone among the Yana, burial for the southern Yokuts, and discards the Cosumnes and Mountain Miwok cases. In addition he notes cremation for the Western Mono, Chumash, Esselen, Costanoan, Coast Miwok, Wappo, and Huchnom. He is in doubt as to the connection of the Modoc with the central area, but I think continuous distribution between the two points is clear.

Burial is the custom in the remaining sections of the Southwest and California, and throughout the Basin. In the Southwest it occurs among the Hopi, Navaho, White Mountain, Coyotero, and San Carlos Apache, Zuñi, Sia, Taos, Jicarilla, and Papago; in Mexico among all the tribes of Sonora and the Huichol.[5] In California it occurs in a well-defined strip of country separating the central and southern areas of cremation. This includes Chumash, Tübatulabal, and Chemehuevi,[6] to whom Kroeber adds Kitanemuk, southern Yokuts, and Eastern Mono. Burial appears again throughout northwestern California: Patwin near the Sacramento, Wintun, Yuki, Wiyot, Hupa, Chimariko, Yurok, and Karok.[7] Kroeber adds Tolowa, Chilula, Wailaki, and Sinkyone. North-

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[1] An offshoot of the Pah-Ute stock, living six miles east of Georgetown, Eldorado Co., according to Snyder (p. 335). This is in Southern Maidu territory, but the identification in the *Handbook of American Indians*, (II, p. 73) places them on upper Butte Creek in the Northwestern Maidu area.

[2] Powers, 160, 173, 182, 216, 226, 310, 323, 327, 341, 363; Barrett, (c), 438; Faye, 37; Hopkins, 64; Barrett, (b), 9; confirmed by R. H. Lowie, 1926; Barrett, (a), 260; Gatschet, (d), 29.

[3] Wükchumni and Western Mono data from Miss Ann Gayton. One informant told her that the Waksachi (the most westerly Mono) cremated long ago, but he may have been referring to Michahai Yokuts custom.

[4] Mason, J. A., (a), 167; Powers, 279, 349, 353, 356, 383, 437; Dixon, (a), 242-245; (c), 217; Lowie, (i), 281; cf. Yarrow, (a), 61; Dixon, (b), 465; Sapir, (d), 62, 194, 195; Mooney, (a), 252. (the material in this paper is open to doubt.)

[5] Hough, (d), 130; Curtis, I, 55, 80; II, 34; XII, 30; Yarrow, (b), 101, 111, 114, 123; Dorsey, (b), [illegible], 157; Shufeldt, (c); Franciscan Fathers, 454; the Navaho buried the enemy (Mescalero) dead ([illegible]tie, 167); Hrdlička, (d), 492; Stevenson, M. C., (a), 144; Goddard, (b), 270; Gaillard, 294; Bandelier, (a), 351; Hrdlička, (b), 60; McGee, 290; Lumholtz, (c), II, 242.

[6] Mason, J. A., (a), 166; Kroeber, (f), note 13; Heye, (b); Powers, 394; Kroeber, (i), 242.

[7] Powers, 216, 226, 249; Mason, J. A., (a); Dixon, (d), 302.

● 171 764 ward from here burial is reported: Tututni, Takelma, Alsea, Kalapooya, Lower Chinook, and Wishram.[1] Burial prevailed throughout the Basin, connecting these several areas by a distribution among Southern Ute, Gosiute, Paviotso, the Shoshoni of Owyhee River, the Paiute of Oregon, Wind River and Lemhi Shoshoni, Nez Percé, and Kutenai.[2] Yarrow states that the Shoshoni "in the upper portion of Nevada" never cremate yet elsewhere he cites the Nevada Shoshoni as sometimes doing so.[3] The Wishram also stated that the "Snake" (more probably Oregon Paiute) cremated.[4] This may mean that some Shoshonean group near the Klamath followed their custom.

As the data stand there are two separate areas where cremation exists, southern California with western Arizona and central California. It is conceivable, however, that these two are connected through southwestern Nevada, or even by the Eastern Mono, for our information that this widely distributed people buried is from one spot only. Cremation occurs far to the north as well, from the Shuswap to the Kadiak Eskimo and Vuntakutchin. But I have not found any evidence connecting this area with those to the south.

Cremation is also a pre-Columbian custom in the Southwest. I have made no attempt to use the archaeological evidence because the time-relations have not been worked out.

An interesting point arises in connection with the change from
171 cremation to burial. This began in southern California, under Mission
178 influence, yet in 1811 the natives at Mission Santa Clara (Miwok or
764 Yokuts) still burned their dead;[5] it was known to the Diegueño as late as the childhood of Davis' elderly informants[6], and to the Mohave in 1890.[7] The Yavapai, newly removed to a reservation, changed their method under protest about 1875[8], and the transition period is set by the Havasupai during the second half of the last century. The question arises, was not the new practice of burial, begun or fostered by the Mission fathers, diffused as a native trait? There is also the possibility of Ghost dance influence in 1870. There is, incidentally, a suggestion of change in the opposite direction in a myth of the Southern Maidu.[9]

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[1] *Handbook of American Indians*, II, 857; Sapir, (a), 275; *Farrand*, (b), 241; Gatschet, (b). 89; Franchère, 257. A burial in an unnamed tribe was witnessed in the Willamette Valley near the present site of Salem between 1822–5 (Anon, *Burial Customs in Oregon*.)

[2] Lewis, (l), 279–282; Yarrow, (b), 127, 134, 161; Reagan, 31; Hopkins, 70; Yarrow, (b), 143; Lewis, (a), 214; Spinden, 262; Chamberlain, (a), 560.

[3] Yarrow, (b), 143, 182.

[4] Information from Dr. W. D. Strong.

[5] Kroeber, (f), notes 13, 27, 62.

[6] Davis, (e), 94.

[7] Allen, 615. I have been told that it was common as late as 1910.

[8] Corbusier, 327.

[9] Powers, 340.

In a myth, told as a Yavapai tale, the corpse is poked with poles to 171
make it burn faster and Coyote steals the only unconsumed part, the 764
heart. This is not a Havasupai custom, but is recorded for the Diegueño, 773
who poke the ashes and heart, the Luiseño, who prod body and heart, "the last consumed";[1] while among the Southern Maidu, those of Bear River poke the corpse with poles and those of American River pass the last unconsumed lump from hand to hand.[2] At an even greater distance the Klamath use poles similarly and hold that the heart is the last consumed.

The Walapai mourning ceremony (p. 267) and the Mohave dance of 171
the Havasupai which is derived from it offer points of comparative 765
interest.[3] This ceremony is but one form taken by the widely distributed 769
Californian mourning anniversary. It is known to the Moapa and Shivwits Paiute, Walapai, Mohave, Maricopa, Yuma, Cahuilla, Diegueño, Luiseño, and the Indians to the north of them, Cupeño, San Miguel Salinan, Yokuts, Miwok, Yokaia Pomo, Southern and Northern Maidu, and Washo.[4] Presumably the Havasupai mourning introduced in 1919 is to be equated to these. In general this is a commemorative occasion at which the mourners weep, dance, and sing, the crowd is harangued, and much is made of the burning of clothing, food, baskets, and the like. Some of these tribes go further, burning images of the dead, namely Yuma, Cahuilla, Diegueño, Cupeño, Luiseño[5] and the Indians to the north of them, Yokuts, the Miwok on the lower Tuolumne River, the Southern Maidu south of the American River, and the Maidu of the Sacramento Valley and foothills when the dead are members of the Secret society or women of wealth and importance. I have no data for the northern Shoshoneans of southern California. But if they had the mourning ceremony there would be a continuous area of distribution.[6]

It is possible to suggest some relations of these ceremonies, provided 171
my interpretation of the discrepancies is correct. First, it will be noted 764
that these ceremonies are found only among tribes who practise cremation 765
universally or in part: they have in fact a similar though less extensive 769

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[1] Hoya, (a), 14; Davis, (c), 96.

[2] Powers, 320; "A long pole was used 'to scrape off the flesh'" (Faye, 37.)

[3] For the latter see above, p. 270.

[4] Lowie, (l), 279; Curtis, II, 52, 70, 83, 92, 114, 117; Kroeber, (a), 291; Allen, 615; Davis, (a), 11; (c), 96, 100; Trippel, 8; Hooper, 343; Kroeber, (g), 65; Du Bois, (a), 625 ff.; (c), 100, 103, 148; Sparkman, 226; Mason, J. A., (a), 168; Powers, 164, 321, 328, 353–356, 384 391; Dixon, (a), 215 259; Barrett, (b), 9.

[5] The image and clothes-burning are described separately by Sparkman (226) but not by Davis or Du Bois.

[6] This mourning ceremony is unknown to the Yana, Achomawi, and Shasta [Dixon, (b), 230], Klamath, to the Athabascans of northwestern California, Yuki, and Pomo, although among the last we must except the Yokaia on the basis of Powers' account [Kroeber, (d), 84; (e), 315; Powers, 194] and to the Southwestern Wintun [Barrett, (c), 438]. In Arizona it is apparently unknown to the Yavapai and Pima [Corbusier, 330; Russell, (d), 193].

171 distribution than cremation. The mourning ceremony is essentially a
764 commemorative repetition of cremation in which clothing and other
765 objects are burned. To be sure, this is not specified for the Moapa,
769 Shivwits, the northern neighbors of the Luiseño, Miwok, and Yokaia,
but our references to these are of the briefest.

It might be doubted that these ceremonies are the same since they
171 are held at various intervals. Many of them are referred to as occurring
765 annually (Walapai, Mohave, Yuma, Cahuilla, Yokuts, Miwok, Southern
769 Maidu, and Northern Maidu of the Sacramento Valley and foothills, and the Washo). Other ceremonies, such as the Luiseño "clothes-burning" and the Salinan are held a year after death; that of the Northeastern Maidu one or two years after death, being repeated the following year; the Cupeño every five years for four or five dead or for all who died since the last ceremony; while the Mohave mourning occurs after a year or at intervals of several years. For some of the other groups we are merely told that it occurs shortly after death; a few days among the Havasupai, Maricopa, Salinan, and Moapa, and but a few months among the Yokaia and the Miwok when important men are concerned. I think it is obvious that, with the possible exception of those cases where the mourning follows on the heels of cremation, commemorative ceremonies in which the whole group participates which occur soon after the death of some individual would be described as recurring annually. The Walapai are a case in point; my information is that it may occur at any time, so Curtis is justified in stating that it occurs every year. In other words, it seems that with the exception noted these are strictly comparable. The real problem lies in what sort of group performances these are. Whether they occur only when there are recent dead to mourn or once a year and at a specified time, regardless of the occurrence of deaths, our scanty data fail to indicate.

The Diegueño, Luiseño, and Cupeño forms, all three image ceremonies, are held at intervals of several years. This is apparently evidence for the transmission of this trait. The Mohave and Northeastern Maidu too hold the mourning rites at intervals of several years, but this is due to their anniversary being held for notable men alone. Social prominence of the dead also figures in other tribes: the Maricopa and possibly the Yokaia Pomo hold the performance for prominent men alone, while the Miwok have a special ceremony for such a few months after death, and the Maidu (valley and foothills groups) then add the image burning for them. These do not seem significant similarities; simply that certain tribes have the commemoration only when notables die or they have special features in connection with such deaths.

Walapai and Yuma construct a shade for the occasion, which is 171
burned with the clothing or images; the Cahuilla and Diegueño burn a 765
house. The Luiseño also burn a house but it is not clear that this is a 769
specially built structure.[1]

The property of the Salinan that is to be burned, like that of the Maidu and some of that of the Yuma, is hung on poles. The people north of the Luiseño erected a pole with baskets at the top to be reached by climbing; it is not stated that this is burned. This suggests the Havasupai pole-climbing introduced as part of the Ghost dance (p. 265).

In brief, to suggest the development of the mourning ceremony, it is 171
based on cremation; essentially a repetition of that practice. There is at 178
least a tendency to make it a regularly recurring commemoration, but the 764
Maricopa, Mohave, Yokaia Pomo, and Northeastern Maidu have taken 765
it over for use only in connection with their important men, and the last 769
two, like Diegueño, Luiseño, and Cupeño, have confined it to longer intervals. The Miwok have elaborated by giving a special ceremony for important men, but the chief elaboration in the area is the addition of the images. That these were added to a previously diffused clothes-burning ceremony is probable: else why the burning of both clothing and images where the images occur? It is not possible to say which group first made images, but we note that those of the southern Californian tribes are more realistic.

I am assuming that this ceremony is not related to certain obser- 171
vances which occur further north, although this is a possibility. A 765
periodical lament, particularly for dead chiefs, occurs in the early spring 769
among the Sahaptin at Priest Rapids on the middle Columbia River. The Shuswap have a feast on the grave a year after the death, while the Upper Thompson re-bury the bones of the wealthy yearly. (Re-burial is frequent in this area.) Carved images of the dead are erected on the [764]
graves by the Upper and Lower Thompson, Lillooet, a people near the Cascades of the Columbia, and some on Puget Sound.[2] These cases are more likely to be special forms of grave post such as are commonly erected by Northwest Coast peoples than images of the Californian type. Yet it must be kept in mind that these occur, at least in part, in an area of cremation also.

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[1] Davis, (e), 100, 103 ff.

[2] Mooney, (b), 728; Ross, (a), 643; Teit, (a), 329, 335; (b), 272; Gibbs (200) does not make it clear whether the Puget Sound Indians fabricated effigies or carved them.

853 The child is put to breast two days after birth. He is not fed during the intervening period.

854 The cradle is made by the expectant woman's mother or grandmother before the child is born. The baby is placed in it as soon as he is washed. It is bedded with a little Hopi blanket on which cedarbark, [439] rubbed soft, is heaped; after the infant is put in position with his arms at his sides, more bark is heaped on, then the blanket is wrapped tightly about him. Infants are kept in the cradle most of the time until they are able to walk. On the whole, a woman does not carry the cradle much on her back, but more frequently in her arms, in which she resembles the [171] Pueblo woman.[1] This is probably due to the sedentary life she lives. The only reason assigned for the use of the cradle is that it has always been the custom. "If the baby is not placed in the cradle, he may move about and, turning on his face, suffocate."[2] The hoop is designed to prevent this calamity by keeping the mother's blanket off the infant's face and to save him from injury in case the cradle falls. Evidently a larger cradle is made when the infant grows, since one specimen seen, much smaller than the others, must have been that of a young infant. The [842] cradle is kept for the next child when its use is finished. If broken, it is thrown away, not burned, because that would cause barrenness.

The cradleboard consists of an oval frame with nearly parallel sides, across which small sticks are closely spaced except at the rounded ends. The frame is made of two U-shaped rods, with their arms nicely trimmed and lapped. These pieces are green branches which are bent, tied, and buried in damp sand to set in the shape of a U. The cross pieces are placed as close together as possible, being bound to the frame by a continuous strand of sinew or buckskin which passes once diagonally over the end of each cross stick. The whole wrapping is liberally daubed with piñon pitch. A strip of cloth (buckskin?) is laid along each side of the frame to cover this wrapping. This is held in place by the tie loops, buckskin thongs, which are always four in number. Two broad tying bands are used: one tied to the uppermost loop, the second to the third loop on the same side. These are tied as shown in Fig. 55. The carrying strap is a broad band, sometimes a Hopi or Navaho woven belt, fastened to the frame one third of the distance from the top. Not all cradles have such straps. The hoop is a broad wicker band. It is made with about forty slender twigs for warps which are bound side by side

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[1] I have not seen children carried astride on the back by women nor astride on the hip.

[2] Also for the Papago and Pima the cradle is not primarily for transportation but for the infant to sleep in (Kissell, 146).

FEMALES (Continued)

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Approximate Age	Name	Explanation	Derivation
90	kokumá or bokumá, to eat piñon nuts.	Usual name.	ko' or bo', piñon tree or nut.
	sadjigañidjá, unripe things floating.		sáwá, unripe; djigañidjá, material covering the surface of water.
94	djäal', eagle.		
	FOREIGN WOMEN.		
25	M^{a}dá.	Yavapai name.	
35	sámI'dIdjá.	Walapai name.	
40	djad'Inyúmá.	Walapai name.	
	gátĕnyúdává, tattooed.	Yavapai; she is far more tattooed than the Havasupai.	dĕnyúdová, face paint, tattoo marks.
60	pagádjahúda, chewing a man.	Walapai: usual name; she said when a girl, "When I grow up and a man comes into my bed, I am going to chew him up"—she married shortly after.	ápa, man; djuinyañgá, to chew; gahúdá, tough.
	sämyókIdjá, to pull with the hand.		söl, hand.
79	olaúwá, (fire) coal.	Walapai	

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COMPARATIVE NOTES.

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The forms of cradleboard are shown diagrammatically on the accompanying map (Fig. 56). The flat type is used throughout the Plateau-Basin and Southwest, the sitting type in California, as among the Pomo, Hupa, Shasta, and Klamath-Modoc (who also use the flat board),[1] and a trough-like affair to the northwestward. The relations within the area are not clear, but it appears that the prevailing pattern is an oval or elliptical outline with local variations. The oval forms are more frequent in the Basin-Plateau; the elliptical in the Southwest. Three structural types are used; the board is made of a single piece of wood, a hoop is provided with transverse or longitudinal bars, or the longitudinal reeds are joined by open twining. The structural basis bears no strict relation to the form.

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[1] Mason, O. T., (g), 510–521; Dixon, (b), 434; Barrett, (a), 257. Field notes on the Klamath, 1925

[Text continues on p. 317]

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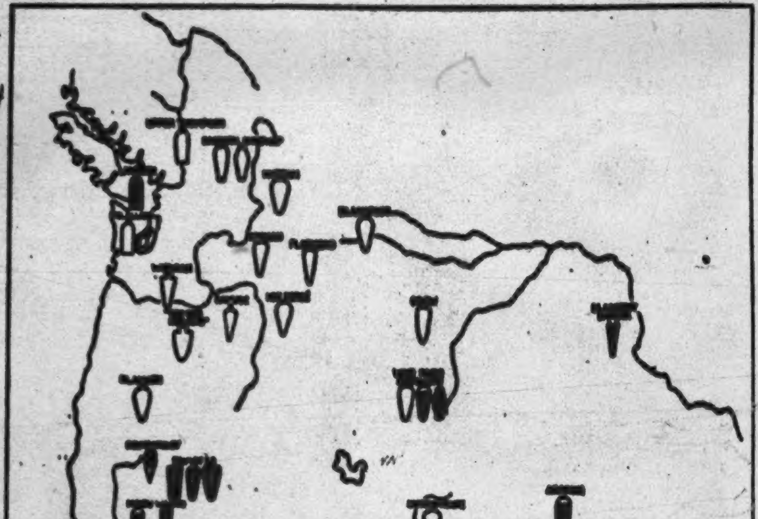

Fig. 58. Distribution of Cradles in the Southwest and Basin-Plateau Areas. Californian sitting cradle and Northwest trough form omitted.

The Havasupai type is an elliptical hoop with its long sides nearly parallel, crossed by closely spaced transverse bars. This type is also used by Walapai, Western Apache, and presumably the Seri.[1] The Mohave and Pima have a variant, a U-shaped frame which might be construed as the elliptical form with only one bow. The cross-sticks are lashed at wide intervals but still transversely. The sides however taper toward the bottom so that the board approaches an oval outline. A crude Cahuilla specimen with two longitudinal sticks similarly crossed by splints is of this type. One Miwok specimen is essentially the same; the flat splints are set close together and the ends of the side bars rise over the infant's face.[2] One Wind River Shoshoni form is of the Havasupai type, but it has the oval outline which prevails in the northern half of the area.[3] The Arapaho have a cradle of the same shape made of a framework of sticks, but it is not stated in which direction the cross-rods run.[4] Another variant appears in Round Valley, Pit River (northern California), and in one Konkau Maidu specimen. This is a single bow with the ends brought together; in outline oval above and ending in a point below. This is crossed transversely by slats.[5] It is possible that these, especially the Round Valley form, are related to the Pima, Mohave, and Moapa types. The Salinan type is described as two sticks crossed by smaller sticks: this sounds like the Cahuilla specimen. It is clear that this is at least the flat cradle, not the sitting type of northwestern California.[6]

The elliptical type is quite old in this area. Two specimens of Basket Maker age, the earliest culture now recognized in the Southwest, from Grand Gulch (?) and the middle Chinlee Valley, are of this type. The latter is rather oval. Both have longitudinal rods in a medial position in addition to transverse rods. The arrangement of the rods suggests the Mono-Yokuts-Wükchumni specimens.[7]

A peculiar type of Californian flat cradle is a forked stick set with transverse rods. In the Yokuts form tule reeds are placed longitudinally as well (practically a tule mat). O. T. Mason figures a Tule specimen like this with both longitudinal and transverse rods. The Maidu cradle is a forked stick with the arms joined at the top to form a bow. The cross sticks in this are small and set close together. This form approached the

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[1] Mason, O. T., (g), 530; (b), 193; Hrdlička, (d), 486, Pl. 32; McGee, 227.
[2] Univ. Calif. Anthro. Museum specimens 1-11014 and 1-10055.
[3] Mason, O. T., (g), 524–5; Curtis, II, ill. after 77; Russell, (d), 103; Lowie, (a), 190.
[4] Kroeber, (h), 67–8.
[5] Mason, O. T., (b), 189.
[6] Mason, J. A., (a), 131.
[7] Kidder, pl. 38e; Morss, 38, pl. vb.

Round Valley and Konkau specimens, and suggests that this whole group may be looked on as a variant of the Havasupai type described above.[1]

The Basin form is commonly an oval frame set longitudinally with reeds united by open twining. This is found among the Shivwits, in one Paviotso form, and possibly among the Wind River Shoshoni. Among the Southern Ute and in one specimen of uncertain derivation, but probably Wind River, the reeds extend at each end beyond the frame. The Moapa have this Shivwits type, but like the Mohave and Pima the frame is a U-shaped bow with converging ends. The Paviotso variant has the framing hoop in the form of a quadrilateral tapering to the lower end. Mason figures one extreme form of this in which the lower end is so narrow that the board is quite pointed, resembling the Californian types mentioned above.[2] The same quadrilateral occurs with variations among the Washo, Mono (probably both divisions), Miwok, Yokuts, Chukchansi, and Wükchumni.[3] Transverse rods, small and very closely set on the back, also appear on some of the more southerly specimens: Mono, Yokuts, and Wükchumni. (Similar cross rods are seen on the Maidu examples mentioned above.) These Californian types are practically basketry structures: they have no frame or at most a very light one. The quadrilateral cradle with longitudinal rods is then a local type of the San Joaquin-western Nevada district.

In the northern part of the area the cradle is a single piece of wood, a board, of oval shape. This is the type of the Upper Thompson, Eastern Shuswap, Okanagan, Spokan, Nez Percé, Klamath, Flathead, Kutenai, Crow, Blackfoot, Wind River, Uncompahgre, and Southern Ute.[4] In the first three and the last, the lower end is square, not rounded, and some of the Shuswap specimens are angular rather then oval, but these all seem variations of a single type. So much of a Cayuse specimen as is shown in one of Curtis' illustrations shows it is essentially the same shape, but I do not know whether it has a board or basket foundation. A specimen collected by the Wilkes expedition among the "Oregon Indians" is clearly related to these although the upper part has angular shoulders.[5] The

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[1] Dixon, (a), 209. Univ. Calif. Anthro. Museum specimens 1-10720, 1-10770, and 1-2290; Mason, O. T., (a), 523.

[2] Lowie, (i), 250 257; Mason, O. T., (a), 508, 528.

[3] Barrett, (b), 21, Pl. XII, Fig. 3; Univ. Calif. Anthro. Museum specimens 1-10044, 1-10016, 1-2237, 1-10057, 1-10119, 1-10216, 1-10286, 1-10254, 1-10400, 1-4003, 1-10780, 1-10817, 1-10830, 1-3000. Wükchumni model in the possession of A. H. Clayton.

[4] Teit, (a), 308; (c), 544-545; Mason, O. T., (a), 510; Spinden, 225; Curtis, VII, 70, 78; Chamberlain, (a), 557; Lowie, (h), 220; Wissler, (a), 88. Wissler suggests that the Blackfoot specimen of lattice type figured by Mason, O. T., (b), 508 is from the Blackfoot Sioux. Lowie, (i), 250; Mason, O. T., (b), 520.

[5] Curtis, VIII, 74; Mason, O. T., (a), 518.

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854

Wishram cradle is angular, yet seems a related form. The last two and the Klamath, Cayuse, Thompson, and some Eastern Shuswap examples are provided with projecting handles in the middle of the upper end. The Klallam cradle is an interesting modification of the Northwest Coast trough cradle in the direction of these flat board forms. The trough is so slight and so filled with padding, that the child lies on, not in it. Further, the form is that of the Thompson cradle even to the handle[1]. The Cowichan cradle is like this but without the handle[2]. The Lkúñgen cradle for a young infant is presumably related to these flat board forms, although it is made of bundles of rushes, the outer one of horseshoe shape. The first Quinault cradle is also a very shallow rectangular trough, in place of the later trough form.[3]

The wooden cradle is used in the Southwest by the Zuñi, Navaho, and the Hopi of the middle mesa. One of the Zuñi forms and that of the Hopi are rounded on top, square at the lower end, and with parallel sides. These may also be variants of the oval form. The second Zuñi pattern with a terraced top is only a further variation. The Hopi of Oraibi and the eastern mesa have a cradle of the same shape but formed of a U-shaped bow filled in with longitudinal rods held by transversely placed wickerwork. The rounded end is usually at the bottom of these specimens but sometimes it is at the top. It is, of course, possible that this is related to the Moapa type where the longitudinal rods are laced by open twining. The Kaibab have also a wicker board, but its shape is not given by Powell. The Navaho cradle presents the most interesting variations of the board form, for here the two projecting points above resemble the points of the Plains lattice frame.[4]

This type, so named by O. T. Mason, consists of two broad sticks converging toward the bottom and crossed by two others. In its tapering form it resembles the oval shapes of the Basin-Plateau. This is used by Comanche, Kiowa, Dakota, and perhaps others. The Mescalero cradle at least is not like these, but apparently a solid rectangular or elliptical form.[5]

The Pima usually have a swing of cloth suspended by ropes; so have the Papago, while the Cora use a swinging netted hoop. The Navaho cradle is sometimes placed in a swing.[6]

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[1] Gunther, 235.
[2] Field Museum, no. 19920.
[3] Boas, (a), 572. Quinault information from Ronald Olson.
[4] Hough, (e), 241; Mason, O. T., (g), 521-4; Powell, 127; Franciscan Fathers, 469.
[5] Mason, O. T., (g), 508, 511; Dorsey, G. A., (b), 10; Goddard, (e), 1st ed., 141.
[6] Hrdlička, (c), 44; Bartlett, II, 254; Hrdlička, (e); Franciscan Fathers, 472. The Yaqui cradle described by Mason, O. T., (g, 525) is different from any of the foregoing. It consists of parallel reeds fastened by dowels in rectangular form.

171 854 Most of the wooden cradleboards of the Basin-Plateau are covered with skin; those of the Southwest are not. This appears among the Eastern Shuswap, Spokan, on the Oregon specimen of Wilkes, Cayuse (?), Nez Percé, Flathead, Kutenai, Blackfoot, Crow, Wind River Shoshoni, Uncompahgre, Southern Ute, and Arapaho. This is further evidence of the relationship of the cradle among these peoples. However, the use of the cover is a separable trait for it has been applied in the adjacent region to the hoop-and-rod types of the Paviotso, Kaibab, and the Colorado Ute. The lattice type of the Plains is provided with a pouch to hold the infant. Some of the Basin-Plateau types (Upper Thompson, the Oregon specimen, Flathead, Blackfoot, Wind River (?), Southern Ute, and Tule) have something of the sort or else the cover itself forms a pouch. Some connection between cover and pouch may be suspected, but this is difficult to work out from illustrations and descriptions alone.

The hood, arch, or awning which protects the face of the child also offers comparative points.[1] First, it is not used among the Plains tribes considered here (Comanche, Kiowa, Arapaho, Dakota, Crow, Blackfoot) nor northwestward among the Flathead, Kutenai (?), Eastern Shuswap, Spokan, and Nez Percé. It is not used in California, among others by the Round Valley group, with the Tule and Yokuts forked stick cradles, nor by the Yaqui in Mexico.

There are three principal forms of the hood. The Upper Thompson, Lillooet,[2] Wishram, Klamath, and Cayuse have a single stick forming an arch secured to the sides of the frame much in the manner of those in the Eastern Woodlands area. In the Basin and California a triangular awning is used: one blunt apex is usually fastened near the top of the cradle, the base rising above the infant's face where it is supported by a transverse arch. Paviotso, Washo, Mono, Maidu, Miwok, Yokuts, Chukchansi, Wükchumni, Uncompahgre,[3] and probably Wind River Shoshoni and Southern Ute have this awning made in open-twine technique, with the supporting arch usually at an angle to the board; that is, leaning toward the upper end of the board. The Shivwits awning is simple twine; that sometimes used by the Hopi of Oraibi and the eastern mesa is wickerwork. The supporting arch for these two tribes and probably the Colorado Ute is vertical.

The Southwestern tribes use either a broad arch or hoop, the latter only among the western groups. The Navaho arch is formed by four sticks placed side by side or by a single broad strip of wood. The Zuñi 171 also use four sticks, but with the tops of the arches spread apart:[1] that 854 of the middle mesa Hopi is similar but uses three sticks. Mescalero, Western Apache, and Moapa have arches made of reeds bound or woven together. One Western Apache form consists of broad splints set transversely in an arch. It is also possible that Hrdlička's description of the San Carlos hood may refer to the hoop form. This is the type of the Havasupai, Walapai, Mohave, Pima, and probably Kaibab. The construction of the first three is almost identical, while the Pima hoop is woven in checker or twill.[2]

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[1] Some Californian and Basin hoods are ornamented to show the sex of the infant. One Havasupai hood bore a string of beads arranged in a zigzag and resembling the decoration of a Paviotso hood, but I neglected to enquire if this had any significance.

[2] Teit, (b), 261.

[3] Mason, O. T., (b), 189.

I will not discuss the relation of these flat cradles to those of the Eastern Woodlands, the sitting type of northern California, nor the wooden trough of the Northwest Coast.

The navel cord is tied to the cradle hood by the Havasupai, Moapa, 171 Southern and Uintah Ute, Paviotso, and the Northern Maidu of the mountains. Like the Havasupai, the two Ute groups believe the child 846 will be foolish or sickly if this is lost or thrown away. The same practice 854 and a similar belief was recently found among the Michahai (Yokuts) and Waksachi (Western Mono) by A. H. Gayton. All these people (excepting Havasupai and Maidu ?) dispose of it by burial.[3] The Klallam infants carry the cord tied to the wrist; if lost, they become foolish.[4]

Havasupai names are either meaningless or they are nicknames. 171 This is also the case with the Southern Ute and, I gather at Zuñi, while among Moapa, Shivwits, and at Cochiti they are always meaningless. 551 Elsewhere in this region names have definite meanings although these vary in character. Among Uintah Ute, Wind River and Lemhi Shoshoni, Klamath, Paviotso, and Yavapai these are usually nicknames referring to the personal characteristics or actions of the name's bearer. This is the usual type of name which Navaho men bear, but as boys they are named, like the girls, with reference to war. Pima names also have meanings, and, like the Havasupai, their men have in later life names referring to sex, especially the female, or to their own peculiarities. Similarly nicknames are given by the Northern Maidu of the foot-hill region: those of the mountains give similar names but these are the names of deceased relatives or friends. Such naming for the dead is the custom among the Maidu of the Sacramento Valley and of the Southern Maidu.[5]

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[1] *Idem*, 193.
[2] Kissell, 149.
[3] Lowie, (i), 265-9; Dixon, (a), 230.
[4] Gunther, 234.
[5] Lowie, (i), 270-2; (a), 211: Parsons, (e); Starr, (a), 42; Corbusier, 331; Franciscan Fathers, 119-125; Russell, (d), 189; Dixon, (a), 232; Faye, 35.

171 851 Freedom in the use of names is a Havasupai peculiarity, for in most tribes of this area reluctance is shown to telling one's name. This is characteristic of the Yavapai, Navaho, Zuñi, White Mountain Apache, Klamath, Lemhi and Wind River Shoshoni. Lowie thinks it probably a widespread and deep-rooted Shoshonean feature. The Moapa do not name the dead in a relative's presence. This is then no more than the Havasupai reluctance and not the abhorrence of the Navaho and Western Apache.

INSTRUCTION OF CHILDREN

861 Instruction is quite sporadic and incidental. So far as their elders express what they consider proper formal instruction, it is objurgation and admonition to behave and to be industrious.

868 Children are taught to talk and walk. When they begin to walk, we tell them: "Go fetch this thing for me;" thus telling the names of objects. Then they will know how to talk as people do. When girls begin to talk, their mothers instruct them how to fetch water and wood: "That is the way I carry things." They teach them to grind corn: "When growing things are ripe, you must gather them. That is what a woman does. When you are grinding for the first time, look for the rat's burrow and observe how he has piled up the dirt at the entrance; then when you grind corn or seeds, make your pile of meal a little larger than that." When the girl is old 867 enough to marry, her mother tells her, "When you marry, do not loiter about the house, but bustle around gathering plenty to grind so you will not starve. You should have plenty of corn, pigweed and *sili'* seeds, piñon nuts, mescal, and prickly pear." That is how an old mother teaches her daughter when she is ready for marriage. If women gather plenty to eat, they will prosper. "When you are married and have a camp of your own, do not be angry if someone comes to your house, and do not fail to give them some of whatever food you have. Do not be angry with your husband's relatives. If you are, they will all say, 'Your wife is no good.' They should not have cause to say this. You should be good to all of them, then they will all be good to you and care for you. They will help your husband make a good living for you."

868 They instruct the boys similarly. When a boy begins to walk and talk, they tell him, "You will have to gather armsful of wood or fetch water. When you are playing about, do things just as you will when you are grown. You should now hunt rabbits so that later when you are older and hunt deer, you will be able to kill them. If you are able to bring home deer every day, those who are wise will say, 'He is a pretty good boy.'"

[867] Sometimes, although they instruct a boy, he disobeys; he is lazy, and that is wrong. "If you are lazy you will not have anything; you will be poor." The old men taught the boys, showing them how to make their garments and the woman's dress. After they were instructed, they made some for themselves. Then when a boy married, he knew how to make a dress and moccasins for his wife. That is how the old people used to instruct them.

When my father was alive he taught me everything just as he had been told when young. "Do thus to straighten an arrow, thus to make a bow or arrowheads, to feather the arrows, to bind them with sinew, just as I do; then you can carry them 868 hunting and kill game. Do just as I: I will not live much longer. Or, when I am old and blind, I will not be able to make any more for you, so you had best learn quickly. This too is the way I make moccasins, pants, shirts, and leggings. I will teach you everything I know about things to wear. If I were a boy like you, and my old maternal grandfather was telling me about these things, I would do as he said."

A boy is instructed to run toward the dawn as far as he can before turning back. He carries a short slow-match. Hardly has he started to [751] return, when he touches it to ankles, knees, wrists, and elbows to keep them from becoming rheumatic, and throws it back over his head. Recovering it, he runs on home. This is in order that he may readily recall a forgotten article before he is far from camp. He continues this practice through manhood, (?) running at each of his wife's illnesses (p. 320).[1]

When I [Sinyella] was about six years old, my father said, "Do not sleep after sunrise; wake as soon as daylight appears. Run toward the dawn. You should do this every day. Run out as far as you can. Do not walk; run. Do this always when you are a young man too; then you will be able to run fast, and when you race with someone you will win. If you do not, you will be beaten." I did this all the time, [863] and I washed my face and eyes. He said, "When you wash, your sight will be sharp; then you can see the game—rabbits lying under the bushes, or deer visible only through an opening among the trees. If you do not wash every morning, you will miss seeing a deer, even though he stands close to you; he will scare you when he bounds off." That is what they told me when I was as old as Lanno [six]. Later when I was as old as my youngest son [twenty] I made both men and women's clothing. By that time I knew how to do all these things. Every morning I ran toward the daylight, so I became a good runner. I could beat the Hopi and Navaho when I was a young man. They told me this when I was a boy and I did it, and it was as they said. But now I am getting old and I can not walk or work fast; my legs are getting weak.

He told me how to ride my horse in chasing deer. I shot them from horseback while running. "If you have good horses you can do just as we did," they said. "If you live as we tell you, you will live to be an old man. When you have children, 867 tell them the same as I told you. When you are very old, blind, and your limbs are weak, your son can carry you. You can use a cane; one of your sons can lead you by it. When you are old and toothless, they can put mashed corn and meat into your mouth, and take good care of you just as though you were a little baby."

My father said, "When you are a young man and feel strong, you can travel about to get anything you need. You can visit other tribes to trade for things to make a good living: horses, buckskins, or other goods, or things to eat. By and by when you are old you will not have good things any longer." That is what I was told and I have no good things now.

Since success in hunting depends more on skill than on charms, 868 explicit instruction is given to the boy. His father or paternal grand-

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[1] Practising running and breaking off branches is referred to in myths. The San Carlos boy is also taught by his father to run and to break branches [Hrdlička, (d), 401.] The Achomawi-Atsugewi [773] puberty custom is somewhat comparable [Dixon, (e), 210.] Mono and Southern Ute fathers similarly run after the birth of a child, the latter breaking off branches [Lowie, (i), 265]. [171]

868 father is the proper guide, but (paternal ?) uncles may offer casual instruction. Nicely made bows are sometimes presented by a grandfather, and all seasons, particularly the autumn when the quail abound, see the boys practising marksmanship. While boys are still young they are taught by precept. They were first taken hunting when about ten years old, shown the deer tracks and "parks", how the game stands and walks, and how to crawl up to it and shoot. Boys of this age are cautioned not to smoke until they have killed their first coyote.[1] When a youth first [224] kills a deer unassisted, he lets it lie, returning home to fetch his grandfather, or some other ancient. The old man flays and butchers it, and he, not the boy, eats the cooked liver.[2]

Little girls help their mothers at household duties when their brothers of equal age are roaming from home in sport. They accompany their mothers to the fields to gather corn, to the orchards to prepare peaches, etc., and assist by carrying little loads of produce and wood, fetching water, and tending the babies. Adolescent girls remain under their [882] mothers' eye and do not go about the canyon freely.

Basket making is taught to girls of seven to nine years. As atten-
[177] dance at the government school interferes with the old process of training,
[648] it is difficult to observe today what progress may be: a girl of sixteen made an execrable basket; three years later her work was average. A left-handed girl has also been taught.[3]

Dance and gaming songs, which have no esoteric character, are picked up by quite young children. It is a common thing to hear them sing snatches, particularly if they think themselves unobserved. One boy of five had quite an extensive repertoire. Children of eight or nine [852] take part in the dance and without much hesitation join in the singing.

Women dance and sing as well as men do, yet they do not have any periods of dance practise.

Although young children may listen to stories on a winter's evening,
538 Manakadja stated that no serious effort is made to engage their attention
[868] until they are ten or twelve years old. This informant and Sinyella were each told the tales by an uncle (probably an elder brother of the father) when boys. Men of fifty or sixty pretend not to know the tales sufficiently

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● [171] [1] The Pima have the same caution [Russell, (d), 118]. Pueblo boys are forbidden to smoke lest it make cowards of them, or as at Cochiti, lessen their ability to run (Dumarest, 145; Parsons, (f), 9). Smoking is connected with warrior status. I vaguely recall having read that killing a coyote is also a prerequisite, but cannot now find a reference to this.

[2] Among the Paviotso of Humboldt Lake a youth does not eat his kill (rabbits, etc.) until he has brought down his first large game (e.g., deer). He carries home the hide to his father, who makes a thong loop from it, which he throws over the boy. He may then eat the flesh (Hopkins, 59). A Shasta boy does not eat his kill until a year or more after he begins to hunt, else he would lose his luck (Dixon, (b), 452).

[3] Hrdlička, (d), 426, notes that San Carlos girls are taught twined weaving first, later coiling.

881 covered girl lies on this (*opágá*), protected by a temporary shade, for four days and nights.[1] Before this, however, her body is washed with yucca root suds, and painted red, save for her face which is decorated with the brown juice of the opuntia. During this period, she must eat and drink sparingly, meat is tabooed (but not salt), and she must use a stick or a smooth deer tibia to scratch herself.[2] She is not permitted to sleep by an old woman, who sits beside her, singing, "Do not be lazy; do not be troublesome. When you are married, cook and fetch water and wood."

[773] Further details are given in a myth. The girl should run to the east at dawn each of the four days.[3] Then she may wash her hair and body. She will be barren should she taste meat before the menses (*dhud'ïgá*, lit., red) end.

841 A woman lives at home during her periodical illnesses, the only interruption in her life being the taboos against meat for fear of barrenness, scratching with her fingers, and sexual intercourse. At the first
585 menstruation following marriage, the mothers of a couple wash the entire
841 body of their respective children and paint them red from head to foot. The husband's hair is roughly bound with a cord into a single queue by his mother. The hair at the wife's temples is tied at the occiput, enclosing the back hair which hangs loose. All this takes place at the camp of the wife's parent, with whom the couple are living. Their parents instruct them, adding to the wife, "Run toward the setting sun[4] as far as you can and return. Some unmarried girls will run with you: try to beat them." This is for the purpose of enabling her to run fast and move about briskly. This running is performed on each of four days succeeding the end of the first flow and on one day following each subsequent menstruation throughout her lifetime. The husband, after being washed by his mother, runs at dawn on each of these days, carrying a slow-match (p. 323).

MANNERISMS AND CUSTOMARY BEHAVIOR

825 Women do not fear the mice that live in the thatch, as white women do, though they drive them away. Yet they react in the same way to lizards; scream for fear they will run under their skirts.

758 Care of the sick and helpless is rather cursory. The invalid must share the discomforts of sleeping with the rest of the family and the coarse

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[171]

[1] Compare the roasting pit of the girls in Southern California.

[2] For comparative notes see Lowie, (i), 145–147, (j), 283, and Benedict, 70.

[3] The Navaho girl runs to the east and back, and a similar custom marks the adolescence ceremony among the White Mountain Apache. The Southern Ute girl at least runs to and fro. (Franciscan Fathers, 446; Curtis, I, 46; Lowie, (i), 272).

[4] There is some confusion about the time; compare above.

meals prepared for them. Blind Bert's relatives, including a newly 758
acquired son-in-law, helped him about at the dance. But in some cases,
such attentions are short-lived as though people were impatient. Thus
the real burden of Bert's care fell on his wife's shoulders, although he had
adult children in the same camp. On the other hand, note Sinyella's
story of how he got shaman after shaman for his son (p. 280). Expressions
of real concern for an ailing relative are by no means uncommon.

While the formal expression of sympathy for grief may take the form 152
of a forced wailing, real sympathy is certainly voiced. For example, 571
the men refrained for some time from using the customary sweatlodge,
situated near the home of a man whose brother had recently died, because,
as they said, the relatives were sad. The dead man's young son [736]
was treated with the greatest tenderness by his maternal grandparents, [603]
who now took charge of him.

Personal cleanliness is, I think, somewhat greater than among the 515
Zuñi and White Mountain Apache. Children spend summer days splashing [871]
in the creek, and men and women bathe in the sweatlodge and creek,
somewhat indiscriminately. Men are not always careful to avoid exposure. [834]
Men are somewhat cleaner than women. Clothing is only
infrequently washed: women wear their cotton slips while in the creek. [296]
Not much lousing or scratching is seen.

Estimates of individual worth are based on abilities, yet here, as 554
always, values follow conventional standards. Chiefs become such by 624
prestige and renown based on their personal qualities (dignity, industry,
and even temper), on their wisdom, bravery, and friendship with foreigners.
A man who would otherwise inherit chieftainship, yet lacks these
qualities, would fail of receiving it. Chiefs are not gauged on their
hospitality or liberality. Three of the six chiefs are recognized as the
best speech makers in the tribe; an evaluation which even an outsider
must agree is just. Rock Jones, the shaman, is credited with being best
acquainted with the folk-tales, as well as being the best raconteur.

One individual, a man of middle-age, is known as an habitual liar. 558
His veracity is held at such low value that no one repeats a statement of
his without prefixing, "P—— said this." Captain Burro, now elderly,
seems to have been a butt all his life. As a boy he was the subject of the
smudge-punishment, as a young man his marksmanship was held in disdain,
and today he suffers the jokes of the young men and the indifference
of his peers.

Some women have reputations as basket makers. The criterion is 555
apparently regularity of stitch, although the best of Havasupai products
is inferior in this regard.

There are several customary positions for sitting women. They 516
usually sit on their crossed legs, the feet turned almost instep down (they kneel, cross ankles, and sit on their calves.) Or they kneel on one knee, then sit with that leg doubled under them, or the legs may be stretched straight forward, ankles crossed, when the back is against a support, or they may sit Turk fashion, the legs drawn up and crossed. The dress is pulled sharply back between the legs when sitting to avoid exposure.

Men's sitting positions are much more variable. Perhaps the commonest is similar to the women's usual mode. They also cross the legs Turk fashion, or lie half recumbent.[1]

Both sexes carry articles in the hand, never on the head as among the 482
Pueblos. Men carry bulky articles by means of a carrying strap passing over the chest; women in their burden baskets, the strap of which crosses the forehead.

Left-handedness is as rare as in a group of normal whites: in 1921, 516
three (two males and a female) were noted in 182 Indians. Should a 827
pregnant woman use her left hand continually, the child will be left-
handed. When the parents observe that the child begins to grasp with 856
the left hand, they remonstrate and tie that arm across his abdomen. But this is no cure; he cries and the hand is freed. The right hand, literally "good hand" (*sölgáhána*) is so called because it can be used at
will. It is wrong to shake hands, or to hand an object to another, with 576
the left. People feel uneasy; say it is not a good way. A handshake, using the left, is no confirmation of an agreement or assurance of friendship; it may cover deceit.

Gestures are not common. The lips are protruded to point out an 201
object, but the extension of the lips and the frequency of their use is [171]
never as great as at Zuñi.[2] In pointing or describing a circuit at a distance, the loosely clenched hands are held as in shooting a bow, the right hand near the right shoulder, elbow raised outward, the left arm nearly at full length and slightly to the left of the body. Both hands then describe the arc together.

To signify, "all gone," "all washed away," the right palm is brushed slowly but forcefully forward on the upturned left palm and then up forward.

The gesture used to describe an arrow shot, as in a tale, is not the same as the actual release. The hands are put in position as in shooting

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[1] Neither men nor women cross the knees when seated on chairs, etc., nor do they squat on their heels. The arms are not characteristically held akimbo, as are those of African natives. The toes are never used to assist in working. [171]

[2] The Southern Ute also use the lips in pointing [Lowie, (1), 283.]

201 and the forefinger of each hand filliped against the thumb, first the right, then the left. This simulates the sounds of the slipping string and the slap of the feathers on the bow.

> [576] On meeting a stranger or a long-absent friend, the Ha-va-su-pai grasps him by the hand, moving it up and down in time to the words of the greeting; and, as he lets go, lifts his own hollow palm toward his mouth, then, with a sudden graceful motion, passes it down over his heart.[1]

Running is indicated by doubling the arm, fist clenched, and working it back and forth vigorously at the side. To show wrestling, the forefingers are half locked before the breast and slowly rocked forward and back to indicate two men struggling. Trading is shown by holding up and crossing the forefingers, occasionally tapping them together; eating, or an invitation to eat, by placing the tip of the crooked right forefinger between the lips.

The wink is not used significantly, nor is it always comprehended. An injured finger is not thrust into the mouth. The Havasupai do not [198] whistle.

Girls and women cover the mouth with the hand or a corner of the shawl when embarrassed or surprised.[2]

[576] A yawn is covered with the back of the hand.

Women when washing their hands, wring them together, then suddenly opening the prone fists, fling off the excess drops from the extended fingers.

When women (sometimes children and less frequently men) are [198] vexed, scorch their fingers, etc., they say *dá, dá, dá* rapidly.[3]

It is customary when fumbling for a continuity of ideas, to repeat a 195 word almost as though stuttering.

Enjoyment of a meal, as by a guest, is shown by loudly smacking the 576 lips from time to time.

Smoking is but moderately indulged in by the older men today, 276 which may be presumed to be the general situation in former times. These men smoke cigarettes with a long puff and a loud closing of the glottis, much to the amusement of their juniors. It is merely a matter of leisure-time indulgence and has no ceremonial significance.[4] I do not recall learning that women smoke.

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[171]

[1] Cushing, (a), 555. I have never observed the second part of this greeting. Cushing may have incorporated a Zuñi greeting here.

[2] Also Yavapai (Corbusier, 336).

[3] Compare the Hidatsa *la, la, la* [Lewis, (c), 234.]

[4] No offerings of tobacco or smoke are made. Tobacco is not chewed

is intense; each breath burns the nostrils and the roots of the hair 515
feel ablaze.[1] Suddenly the leader bursts into song; the others may join
him. Near the end of their stay (ten minutes or more) the leader sprinkles
water on the rocks with his fingers. To escape the fierce steam which
rises to the top of the lodge, one bows face to earth, gradually rising as
he is inured. On emerging, the bathers may plunge into the creek, or
loll about waiting their turn again.[2]

Any song may be sung in the lodge, but some are peculiar to it. 533
These are used by an old man, not a shaman, to cure one who is hurt or [755]
wounded (*nahamí'dvídja suwídigá*, singing to cure). Such songs cannot be
sung outside for fear of a calamity. Rock Jones, a weather shaman, [789]
sang his songs to produce rain, which evoked an immediate response in
the form of a flood while he was still within the lodge.

Midafternoon finds the gambling games in full swing at one or two 517
of the village camps where connivial spirits foregather; women and prin- 525
cipally younger men. A typical scene at T——'s would show several
games in progress in the shade of the cottonwoods, with shrill laughter
punctuating the challenge and banter of the little circles seated on the
sand; the horses standing, stamping, at the corral edge; men and boys
coming and going; the children tumbling about in the sunshine; the
elderly host, who rarely indulges, seated to one side, parrying chaff;
and his half-blind wife querulously engaged in her household tasks.
The function of this host is not clear; it is said that he likes to have [574]
the players come, but evidently they fee him from time to time. I have
heard his voice echoing through the canyon, much to the amusement of
bystanders, calling on the tardy to hasten.

Footracing (*tanomágvígá*, race by two; *tanomágovígá*, by three or 526
more) is to a point 50 to 125 m. distant and return. Races were usually
for stakes. There are no relay or kicking races, although the latter are
known[3]. Horseracing has superseded footracing, but it has developed on 541
the same pattern, i.e., a race to a point and return. Considerable atten-
tion is given to the preparation of the course in the canyon (about 1500 541
m. long) and selecting the horses. To insure a colt becoming a racehorse, 789
the following meaningless songs are sung while he is being broken:— 533

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[1] On a day in October, the temperature in a lodge that was not quite air-tight registered 135° F. (outside 73°F). Probably the temperature in the summer lodges ranges from 110°-130° F. G. A. Dorsey notes of a Cheyenne sweatlodge that, "it is probable that the heat registered not less than 145°" [(d), 48]. [345]

[2] I have found the sweating deliciously refreshing, relaxing every muscle. The plunge into the cold water has not the expected shock, although it does set the muscles quivering.

[3] In connection with a myth it was said that the object kicked (*atpí''i*) was a lump compounded of wool and piñon gum. The Pima use a ball of greasewood gum or a gum coated core of stone and wood [Hrdlička, (e), 48]. [171]

the corners cut off obliquely, and with a thong in each end. One of the 524
thongs is provided with a loop to slip over the forefinger. 857

SUICIDE

Suicides, like the insane, are rare. The practice is referred to in 762 myths and in funeral speeches, and is credited to the Walapai, yet there have been no instances for a generation.

Occasionally, a man or woman gets into many difficulties, whereupon everyone blames him, calls him bad. He thinks it is no use to remain alive longer, or he feels spiteful and wants to earn the name truly; then he may fall sick and die. Suicides are regarded as crazy.

> Once I [Sinyella] saw a suicide, Tohawaga's elder brother, a lad of sixteen. I do not know what they were angry about, but they fought all the time. Tohawaga's father told him to behave: "I told you repeatedly, but you do not stop." Then he beat him. The brother took a pistol from his belt and shot himself through the throat. [766] They threw his body over the cliff above Bridal Veil Falls [this is the mode of killing horses after the death of their owner], for they would not give the usual burial to a suicide. I do not know where the soul of a suicide goes.

When mourners grieve for their relatives, the chiefs console them, 624
saying, in the course of their harangues, "You will not long be alive. 765
Soon you will sicken and die and go the same way. Now you must be good. Do not kill yourself."

COMPARATIVE NOTES

The details of construction and use of the sweatlodge would afford 171
good evidence of historic connection were there sufficient comparative 345
material. The Havasupai type, a small dome-shaped lodge, is probably in general use through the western plateaus and the Plains. Its equivalent among the Pueblos is the estufa (ceremonial chamber-dormitory) of Spanish days. There is some evidence that it was not in use along the lower Colorado. The Mohave did not have a regular lodge but used a closed dwelling in the manner of the Californian assembly house. Mr. E. W. Gifford informs me that neither the Yuma nor Cocopa used it, yet Trippel refers to the Yuma use in the girls' puberty rites. It was probably not used by the desert Shoshoneans of adjacent California. The Washo, according to Doctor R. H. Lowie, do not use it. There is no mention of it in Russell's account of the Pima; hence, it may be lacking there as well. Finally, the Shivwits believe that they recently acquired it from the Walapai. The well-known type of assembly or dance house takes its place in northern California. Powers places the dividing line at Sacramento City: south of there the small lodge is used.[1]

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[1] Kroeber, (a), 277; Trippel, 560; Lowie, (l), 307 f; Powers, 380.

171 345 Wherever described, the shape of the lodge is given as hemispherical with the exception of the Luiseño and Cahuilla. The Navaho lodge is sub-conical, which parallels the departure of their hogan from the usual dome-shaped house of this region. The Cahuilla structure is somewhat like a rectangular pyramid; the Luiseño gable-shaped. But although these are of such size as to suggest the assembly house to the north, they were not used for ceremonies. The Salinan have both the small lodge and the large dance house.

Salinan, Luiseño, and Cahuilla had a fire in the center of the sweat-lodge; others carried heated stones inside (Havasupai, Navaho, Yuma, Southern Maidu, Klamath, Paviotso, Southern Ute, Wind River, and Kutenai). The Western Apache custom is not stated. The stones are placed to the left of the entrance (as one goes in) by the Havasupai and occupy a similar position in the Navaho lodge, where they are always on the north side, the lodge usually facing west. Water is sprinkled on the stones by all these groups, except the Southern Ute and perhaps some Navaho.[1]

171 526 The regular Havasupai pattern for a race is to a point and return. I do not know how general this may be, for the only other references found are widely scattered: Huichol, Northern Shoshoni, Puget Sound Salish, and Alaskan Eskimo.[2]

Such references as occur to ball juggling in this area uniformly ascribe it to women alone: Havasupai, Zuñi, Paiute, Uintah Ute, Wind River Shoshoni (where women walk about as among Havasupai), and Bannock. It is a girl's pastime among the Naskapi also, but this is not specified as the Eskimo and Achomawi usage.[3]

Archery games are perhaps so common that only specific details can be accepted as defining analogs of the Havasupai customs. Achomawi and Atsugewi shoot at a rolling target, a disk of bark.[4] The game of shooting at a hidden cactus is very similar to one of the Pima, and less so to those of Zuñi and Hopi.[5]

171 534 The question of the aboriginal nature of the musical bow in America excited considerable interest years ago. There seem to be at least two instruments involved which should not be confused. The first is hardly a musical instrument; the Havasupai hold the ordinary bow in the

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[1] Kroeber, (g), 64; Du Bois, (c), 185; Mason, J. A., (a), 126; Gatschet, (b), 82; Barrett, (a), 248; Franciscan Fathers, 56, 340-3; Matthews, (d), 227; Mindeleff, 490; Stephen, (b), 261; Letherman, 289; Faye, 53; Chamberlain, (a), 867; (b), 184; Bourke, (b), 61.

[2] Lumholtz, (c), II, 48; Lowie, (a), 917; Haeberlin and Gunther, 34; Culin, (b), 805.

[3] Culin, (b), 712 f; Lowie, (a), 199; Dorsey, G. A., (a).

[4] Dixon, (c), 215.

[5] Russell, (d), 178, Culin, (b), 390, 398.

mouth, while tapping it, to make an opponent falter. Northwestern 171
and Southern Maidu shamans similarly hold a special bow to converse 534
with spirits; the Northeastern Maidu use an ordinary bow for amusement only. For amusement, the Eastern Pomo tap a bow provided with two strings and held in the mouth. The San Antonio Salinan and Yokuts also use a special bow with the mouth as a resonance chamber. The usage crops up again among the Maya and again in western central Patagonia; the bow is held in the mouth while the string is tapped. The Tepecano place an ordinary bow on a gourd and tap the string as an accompaniment to the recital of prayers.[1] The other type of instrument has several strings, often tuning pegs and a bridge, and is described as a fiddle or guitar. This is on record for the White Mountain and San Carlos Apache, Yokuts, Tule, "Pueblo" of New Mexico, and in South America among Busintana, Araucanians, Patagonians, and tribes on the lower Amazon.[2] Musical bows of undescribed nature are credited to the Tepehuane, Cora, and Huichol of Mexico, and the Lencas of Honduras, the Chané, Choroti, and Mataco of the Gran Chaco. Saville also believes in their possible existence in Central America, Guatemala, and San Salvador.[3] Balfour holds that the musical bow was introduced into the West Indies, South, and North America by negroes.[4] Nordenskiöld favors white or negro sources for the South American examples. This may apply well enough to the multiple stringed affair, but there is no reason why the use of the ordinary bow should be viewed in this way. This is not a specialized instrument; it is not really a musical instrument at all; and the twanging of a bowstring with the mouth as a resonator, which can be appreciated by the player alone, must have repeatedly occurred. Its sporadic distribution as a regular usage bears this out. It seems unlikely that there is any historical connection between the several occurrences of the mouth-bow, with the exception of the Californian-Havasupai cases. It is doubtful that this is derived from the fiddle type.

Shinney is played generally throughout the Southwest. Havasupai 171
and Hopi play it in the spring. Zuñi, Hopi, Havasupai, Walapai, and 526
presumably Mohave bury the ball at the center of the field. There is some similarity in the name for the game: Havasupai *tdcitdga*, Walapai

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[1] Dixon, (a), 222; Faye, 28; Mason, J. A., (a), 157; Kroeber, (f), 19, note 47; Saville, (a), 272; Ten Kate, 93. According to Dr. Edwin Loeb the Western Pomo do not have it.

[2] Bourke, (d), 10, 18; Mason, J. A., (b), 47; Hrdlička, (d), 488; Powers, Fig. 39; Mason, O. T., (h), 200; Nordenskiöld, 168, 182.

[3] *Handbook of the American Indians*, I, 960; Lumholtz, (e), I, 475, II, 155; Mason, O. T., (d), 136; Saville, (b), 260–264.

[4] Balfour, 29–52.

171 526 *tse-e-ea*, Yuma *cha-tah-sah*, Navaho *ndashdilkä'l*, and Hopi *ta-tats'-la-la-wüh* (ball, *to-tci*).[1]

The hoop and pole game is recorded in the Southwest for the Yuma, Mohave, Northern and Southern Diegueño, Gabrielino, Havasupai, Paiute, Navaho, Mescalero and Western Apache, Hopi, Zuñi, Laguna, and Isleta. The manner of playing it is almost identical among the Havasupai, Walapai,[2] Mohave, Southern Diegueño, and perhaps Yuma. Southern Diegueño, Mohave, and Havasupai poles have one or two rings encircling the butt; the White Mountain Apache have many, but the ring nearest the butt counts highest. Apparently all these groups use the simple hoop without netting, except the White Mountain Apache, Isleta, and Paiute. It has a central core wrapped with buckskin among Gabrielino, Walapai, Havasupai, Navaho, and Wind River Shoshoni, while that of the Hopi is cornhusk. The White Mountain Apache and Southern Diegueño cast the hoop in the same way as the Havasupai. These two have the two poles represent the sexes.[3]

Culin and others give little material on the cup and pin game in the Southwest. Pima, Zuñi, and the Tewa of Hano use a form with one or more rings: Havasupai and Paiute use a rabbit skull.[4] The Moapa reckoning is identical with that of the Havasupai, except for the incisor hole count.[5]

171 524 Basket dice is a widely distributed game, and the Havasupai have no special form of it. It is generally a woman's game in this area, but played by both sexes among Navaho, Zuñi, and Mohave, although the first consider it especially a man's game. The number of dice varies, but not randomly: Havasupai, Maricopa, and Pima, four; Mohave, four but only three are used in play; Zuñi, four or five; Paviotso and Washo, twelve. These are all long wooden or bone dice. White Mountain Apache use thirteen or fourteen small chips; Navaho, thirteen or seven. By way of comparison, the Yokuts (of Fort Tejon and Tule River) use eight nut shells, the Tejon, six. In another form of dice game in this area the Zuñi use small chips, three lozenges and two squares, thrown from a board; the Wind River Shoshoni, three lozenges and three disks, tossed in a basket. The Mohave and Pima games are included here although no basket is used to toss the dice. The absence of the basket

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[1] Culin, (b), 694, 656, 646-7; Trippel, 6; Curtis, XII, 40.

[2] The Walapai names for game, hoop, and pole, are the phonetic equivalents of the Havasupai [Culin, (b), 525].

[3] Culin, (b), 449-525; Trippel, 5; Heintzelman, 60; Franciscan Fathers, 485; Lewis, (l), 261; Spier, (e), 353; Reid, 18; Du Bois, (e), 167.

[4] The only other recorded uses of a skull are among Labrador and West Greenland Eskimo [Culin, (b), 546; Parsons, 237].

[5] Culin, (b), 548-550; Lewis, (l), 287.

seems a local variation, for no basket is mentioned in connection with the Maricopa game. The White Mountain Apache and Wind River Shoshoni strike the basket on the ground. The latter sometimes throw the dice into the basket and the Yokuts always do. These resemblances may not be significant, but the answer lies in what the custom may be in the intervening areas. The scoring is variable, but there are identities. All four faces up count one for Havasupai, Mohave, Maricopa, and Pima. All faces down count one for the first pair, two for the second pair of tribes. Any other throw does not score for any of them. It is clear that they clearly recognize that all of a kind is necessarily the most infrequent throw.[1]

Stick dice is essentially a Southwestern and north Mexican game. Comparative notes are tabulated below. I have assumed that the essentials of this form of the dice game are (1) striking the sticks on something so that they fall on the rebound, and (2) noting the scores on markers arranged in a circle or square. A case is included here if either of these features appear.[2]

In addition to the groups below, Lummis notes its occurrence in the Pueblos of Sandia, San Felipe, Santo Domingo, Tesuque, San Ildefonso, and doubtfully, San Juan. He did not see it at Jemez, Pojoaque, or Picuris. It may be played by Yuma and Mohave as a note by Ten Kate suggests. Mooney ascribes it to the Comanche and "Apache of the southern plains." Pawnee and Arapaho dice accompanied by a square of hide, which may have served as a surface on which to bounce them, suggest that this game may have been known to them also. Lumholtz says that it is played by all the tribes who live in or near the sierras of Chihuahua (and by the Mexicans), but is not known south of the State of Durango. The Opata and the Zuaque of Sinaloa may be added. It is unknown to the Cora and Tarasco.[3]

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[1] Culin, (b), 91–224; Powers, 378; Lowie, (l), 255, 262.

[2] Culin, (b), 87–221; Franciscan Fathers, 481; Dorsey, G. A., (b), 187; Lowie, (i), 262; (a), 188; Russell, (d), 175; Curtis, XII, 48.

[3] Culin, (b), 31, 99, 127, 140, 181, 184, 186.

	Number of dice	*Struck on center stone, or*	*Circle of stones, or*	*Number of stones*	*Marker called "horse" or*	*Opponent's marker "killed"*	*Scores* *All back*	*1 front*	*2 front*	*3 front*	*All front*	*Circuits per game*
Wind River Shoshoni	4	×										
Lemhi	4	×					10		to		5	
Paviotso	6		sticks									semicircle
Paiute	8	ground										
Yokuts	8		?	25		?	16		to		1	
Gabrielino	8	ground										
Northern Diegueño	4		board: square with wings	40 holes								
Pima	4	ground or struck up from hand	square with wings	40 holes	horse or slave	×	10	15, 14, 6, [illegible]	2	3	5	
Papago	4	struck up from hand	square with wings	40 holes	×	×	10	15, 14, 6, 4	2	3	5	1
Walapai	3	×	×	20			10	1	3		5	semicircle
Havasupai	3	×	×	indefinite		×	10	1, 2	3		5	1
Oraibi	3 or 2	floor	inscribed stone with wing	–	animal		2				1	
Hopi	2	×	×	4×10		×	10	1	3		5	1
Hano	3		×	4×10			10	2	3		5	
White Mountain Apache	3	×	×	4×10		×	10	1, 2	3		5	1 or 3
Zuñi	2	×	×	4×10	×	×	{10 {10	2 3	2 3		5 5	1 or 4

1: Spier E-5 (1918) 1928
NT14 Plateau Yumans NT14
Havasupai

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	Number of dice	Struck on center stone, or	Circle of stones, or	Number of stones	Marker called "horse" or	Opponent's marker "killed"	Scores					Circuits per game
							All back	1 front	2 front	4 front	All front	
Navaho	3	×	Circle or square	4×10			{10	2	3		5	
							{10	0	0		5	
Acoma	3		×	3×10	×		10	3	2		5	
Laguna	3	×	×	4×10	×	×	10	2	3, 15		5	1 or more
Isleta	3	×	×	4×10	×	×	{10	2	3		5	
							{	2, 10-	3, 15		5	
Sia	4		square	4×10			10	3	2	..	6	
Cochiti	3	×	×	40			10	2	2, 15		5	
Santa Clara	4 or 3	×	square	40	×	×	{10	3	..		5	1
							{10	1	3, 15		5	
Nambé	3	×	×	4×10	×	×	10	1	3, 15		5	1
Taos	3	×	×	16×10	×	×	10	1	1, 15		5	semicircle
Comanche	12	×	*									100 points
Kiowa	4	×	marked blanket	4 ×10		×	10	1	2	3	6	8 or more 8?
Caddo	4	board										
Tarahumare	4	stones	square with wings	4×10 holes		×			quince			
Tepehuane	4		square with wings	4×10 holes					quince			

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The unity of this game complex is quite obvious. Ordinarily, three dice are used; the cases where there are more are by no means randomly distributed. Four are used by the Northern Diegueño, and all the Piman groups. This occurs again at Sia, Santa Clara, and among Kiowa and Caddo.[1] It is quite likely that all these form one group, since the game is called by its Spanish name (quince, fifteen) both in Mexico and in these Pueblos. We might be more certain of this if we knew the scoring in Mexico. It is, of course, possible that at least this special form was carried by Mexicans from one region to the other. The Wind River use of four dice is not clearly connected with these.

The use of eight dice by Paiute, Gabrielino, and Yokuts is an interesting case of coalescence of two games, for in this region the basket dice usually number eight.

Note also that the Paiute, Gabrielino, the Hopi of Oraibi, and Pima strike the dice on the ground. Pima and Papago share the custom of striking them upward from the hand with a flat stone, rather than the usual one of bouncing them on the stone.

The circle of stones, etc., which serves as a counting board is very general; even the diagram marked on a blanket by the Kiowa is of this pattern. The exceptional form is a square, from corners of which there are sometimes pendent lines or wings of stones from which the markers start. These are two or four in number and curved in shape. This establishes again a definite relationship between Northern Diegueño, Pima, Papago, Tarahumare, and Tepehuane. The inscribed stone used by some Hopi has a wing extending into the figure which also serves as the starting point. The use of the square at Sia and Santa Clara is further evidence of their connection with the Mexican tribes. The square is also used by some Navaho.

The number of points in the circle is quite uniformly forty, divided into quadrants of ten. At Taos the process has been carried one step further, each of these quadrants being again divided in four. The only aberrant cases are the Havasupai, Walapai, and Yokuts, and in the last case it is not certain that we are dealing with the same game.

The markers are commonly called horses. At Zuñi these are little figurines of horses. It is equally common to find that the marker is sent back to the starting point ("killed") if another enters the space it occupies.

The definite identity of the complex is clearly established by the scoring system. Almost universally, a score all of one kind counts ten,

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[1] No description of the Caddo game is given, but they have a board used in connection with four dice and eight counters, which suggests an equivalent to the Kiowa game.

its opposite five. The intermediate scores usually have the same pro- 171
gression up to five. In some of the systems a mark on one of the dice 524
brings in another variable, so that two fronts (in a total of three sticks) counts three (or two or one) and the same throw with one of these fronts a marked piece, fifteen. This is the scoring at Laguna, Cochiti, Santa Clara, and Taos. This is probably also the case at Isleta and Nambé but the descriptions are not clear. All four sticks are separately marked by the Pima and Papago, so that a throw of any one of these marked sides counts variously fifteen, fourteen, six, and four. The entire scoring system is arbitrary and not at all dependent on the probability of occurrence of any score; hence, the use of fifteen as the highest score constitutes a further proof of historic connection among those tribes already coupled by the use of the square and four sticks.

Culin has grouped together the moccasin game and the hidden ball 114
game as variants of a single form.[1] To be sure, the fundamental concept
is the same; an object is hidden in one of four moccasins, mounds, or 171
tubes. Yet, the areas of distribution are so distinct as to render historical 524
connection improbable. The moccasin game is found among the Cheyenne,[2] Dakota, Southern Siouans, Assiniboin,[3] Central Algonkins, and Iroquois; the mound and tube forms are distinctly Southwestern. The basic ideas are quite simple: the notion of seeking a hidden object may arise anywhere, and that it be in one of four places seems only an application of the common pattern number four. Thus so far as these games are alike it seems a case of convergence.[4] The difficulty in accepting this view is the partial similarity in the scoring.

There are two forms of the hidden ball game in the Southwest. The 171
Havasupai type in which the ball is hidden in one of four mounds is
known to the Walapai, Mohave,[5] Maricopa, Navaho, and by mythical 524
reference to the Sia. The Havasupai and Walapai games are identical; the mounds are constructed in two furrows, the ball is made of yucca root, and the counters are drawn one at a time until all sixteen are obtained. In the Navaho game a moccasin is buried in each mound in the furrow and in this a stone ball is hidden. This suggests a connection with the moccasin game to the north, in that the two games have here coalesced. But it is difficult to see how the connection can have taken place.

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[1] Culin, (b), 335–382.

[2] Grinnell, (b), I, 328.

[3] Lowie, (b), 18.

[4] The Nootka and Kwakiutl hiding game in which four men are given four guesses shows how the same pattern has resulted in a different form [Culin, (b), 370].

[5] Kroeber, (h), 270.

171 524 The other form is known locally as cañute (Spanish caña, reed) which takes its name from the four tubes or segments of reed in which the object is hidden. This is played by the Ute,[1] Jicarilla, at Taos, San Juan, San Ildefonso,[2] Santa Clara, Jemez, Isleta, Sia, Laguna, Acoma, Zuñi, Hano, by the Hopi, Pima, Maricopa, Papago, and the Zuaque of Rio Fuerte, Sinaloa. These two forms of the game seem to be related, at least in that the tubes are stuck in a mound at San Ildefonso, Santa Clara, Zuñi, Zuaque, and sometimes Taos; and they are filled with sand by the Tewa of Hano, Pima, and Papago.

The scoring in the cañute game is curious and arbitrary. In general, the object is to find the ball in the third tube chosen, when the privilege of hiding passes to the victor, but he gains no counters. If it is located on the first trial the guesser loses ten points, on the second, six, and if it remains in the fourth tube, four. That is, points are gained only as the opponent loses. This is the scoring of San Ildefonso, Laguna, Hano, probably Taos, Santa Clara, Navaho, and at least sometimes at Zuñi. The Papago and Pima have an analogous count: losing ten, six, or four to the opponent, depending on which tube the ball is hidden in. The description suggests that the choice really corresponds to leaving the ball in the fourth tube.

The method of determining which side shall first hide the pellet shows some historical connections. Among the Papago both hide a pellet and guess as many times as is necessary before one alone makes a correct guess. The Pima method seems to be similar. At San Ildefonso one of them must find the ball hidden in one of two tubes at his first trial. This seems also to be the case at Nambé. This couples the Piman and Tewan groups. On the other hand, a different method is used in the center of the area: Hopi, Navaho, Zuñi, and Acoma toss a leaf, chip, or disk to decide.

The total number of points needed to win is generally of the same order: Navaho, 102, Zuñi, 100+2, Hano and Jicarilla 104, Laguna, 100+4, Pima, 100 (or its multiple), Papago, 50 or 100 or more, Oraibi, 50, San Ildefonso, 50 to 200. The total is variable at Santa Clara, ten by a different count at Walpi, and among the Hopi at large eight consecutive correct guesses.

171 192 524 It is noteworthy that the name of the game is very variable. The exceptions show obvious connections: Havasupai and Walapai, Papago and Pima. On the other hand, there are similarities in the names given

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[1] Lowie, (I), 230.
[2] Harrington, (b).

the tubes and in their markings which connect the Gila tribes with the 171
Tewa and their neighbors. The following table gives the names in 524
translation, the native terms being retained only where no translation 192
is given or where they will show connections. The names are not always explicitly attached to Culin's illustrations, so I have taken the liberty of assuming the appropriate connection. This applies to the material from Santa Clara, Taos, and Papago.

	One End Marked	*Two Ends Marked*	*All Over, or Ends and Middle*	*Middle Marked*	*Unmarked*
Nambé	one	two	mulato[1]	chinchado[1] (girded)	
Santa Clara	one	two	sĕn-dō′ (old)	girthed	
Taos	one	two	mulata (tawney)	girthed	
San Ildefonso	one	two	mulàsęŋnde (old mule)	ti′įŋ (el hinchado, swollen)	
Jemes	at the top	at two places	speckled	in the middle	
Isleta	one	two	spotted		
Sia	×	×	×	×	
Hopi	×	×	×	×	
Hano	pesopeni	poyopeni	wihipeni	kepeni	
Pima	ma-atcovolt		old man	middle black	old woman
Papago	má-ok ju col		old man	made black	old woman
Maricopa	hiyaquimyorsh		old man	tok-gum-yorsh	old woman

Harrington suggests that the San Ildefonso names translated "old mule" and "swollen" are their folk-etymologies for their equivalents of the common Spanish names mulato and chinchado.[2] I would suggest further a possible connection of the Santa Clara "old" (or old man?) and this "old mule" with the Pima-Papago-Maricopa "old man."

Among some of the groups the hider arranges the tubes in a definite 171
pattern. At San Ildefonso there are a whole host of such arrangements, 524
each with its appropriate name, but at Jemez, Isleta, and Taos, there are none. At Acoma it is said they are laid on their ends or sides, or in fantastic ways. The Papago and Pima guesser crosses one pair of tubes and picks up one of the others. The Zuñi arrange them in a square or a

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[1] I have transposed these names because the names as given in Culin's account (308) obviously do not agree with the markings. These will then agree with the Santa Clara and Taos names which Harrington [(b), 251] has identified with the San Ildefonso analogs.

[2] Harrington, (b), 249-251.

● 171 524 triangle with the fourth reed beside it, the Hopi in a square or row. (The Havasupai, Walapai, and Navaho arrange the sand piles in a row). The latter cases suggest cultural connection, but this need not be true for the Piman and Tewan groups.

The discontinuous distribution of the moccasin game and the hidden ball game seems established despite the Navaho case. I do not find either game recorded for the Arapaho, Kiowa, Wichita, or others in the intervening area. There is, however, some similarity in the scoring. The Ojibwa player loses points unless he finds the object on the third trial, the Winnebago and possibly the Ottawa and Cree on the fourth, and the Santee in the second of three moccasins. On the winning trial the guesser gains points; a feature wholly absent in the Southwest. The value of points lost or gained in the successive trials bears no relation to the chances involved. In the Cheyenne game the guesser loses a point unless he succeeds on the first trial. Among the other tribes for whom we have data—Menomini, Omaha, Seneca, and Wyandot—the notion is rather of winning points by successive guesses. The scoring is quite variable throughout this area, but the principle of avoiding the object on the earlier trials is found only in one compact area, including at least Santee, Ojibwa, and Winnebago.

The question is whether this similarity is due to borrowing or convergence. I think it can be shown that the latter is involved. In making a choice of this kind, the guesser can either wager that he will find the object or that he will not. It does not matter how many trials are permitted, these are the only alternatives and they apply with equal force to each trial. Of these possibilities one must be decided on. Whether to lose points for a failure to find the ball or for finding it, or to win points for the same, or merely to win the right to hide the object, must also be decided, but this is in no way dependent on the decision to find or to avoid.

The Southwestern tribes have in general decided to avoid the object on all save one trial; so have the Ojibwa, Santee, and Winnebago. The Havasupai, Walapai, Cheyenne, and the other eastern groups have chosen the other alternative, to find the object. So much of the similarity is clearly accidental.

If the decision is to avoid the object it must be found on some other than the first trial. There are three possibilities. The Southwestern tribes, east of the Havasupai, have uniformly prescribed the third trial. On the other hand, the Eastern Woodland tribes have variously hit on the second, third, or fourth. The only real similarity then is in the case of the Ojibwa; this then may be set down to accident.

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Furthermore, there is no similarity between the values in the scoring systems of the Southwest and the eastern area. All include arbitrary values not dependent on chance. This is clearly the case in the east, where the Winnebago, for example, have the same number of points (four) lost or won in each trial, although the chances necessarily change. In the Southwest the order of the losses (10, 6, 0, 4) is dependent on chance, but not the actual values. If we consider the position of the guesser, who endeavors to avoid the ball until the third trial, we see he has three chances to one in his favor on the first trial, two to one on the second, an even chance on the third, and certainty of failure on the last. Taking 10 as the highest penalty, this should apply, as it does, on the first trial: the others should be in order, 7.5, 5, and 2.5. There are two arbitrary elements here; the actual values and the choice of the third trial for success rather than the fourth.

CHAPTER XIV

THE HAVASUPAIS AND THEIR LEGENDS

IN almost every case one finds a variety of differing 773
legends related by the Indians of any tribe upon the
same subject. As the Wallapais and Havasupais are [171]
cousins, one would naturally expect their legends to
have some things in common. How much this is so
will be seen by a comparison of the following story
with that of the Wallapai Origin Legend.

"The two gods of the universe," said O-dig-i-ni-ni'-a, 773
the relator of the mythic lore of the Havasupais, "are 539
Tochopa and Hokomata. Tochopa he heap good. [774]
Hokomata heap han-a-to-op'-o-gi — heap bad — all same
white man's devil. Him Hokomata make big row with
Tochopa, and he say he drown the world.

"Tochopa was full of sadness at the news. He had one daughter whom he devotedly loved, and from her he had hoped would descend the whole human race for whom the world had been made. If Hokomata persisted in his wicked determination she must be saved at all hazard. So, working day and night, he speedily prepared the trunk of a pinion tree by hollowing it out from one end. In this hollow tree he placed food and other necessaries, and also made a lookout window. Then he brought his daughter, and telling her she must go into this tree and there be sealed up, he took

Tribal Origin and Classification

Spier (1928, 98) states that the Havasupai probably originated as a 101
branch of the Walapai tribe, practicing more intensive agriculture than the 648
latter and subsequently occupying lands favorable to farming. The Havasupai
feel more akin to the Walapai than to other neighboring tribes. In historic
times the boundary between the contiguous areas occupied by the Havasupai
and the Walapai on the Coconino Plateau was ill defined, and members of both
tribes frequently met and camped together. At present, there is a higher rate [592]
of intermarriage with the Walapai than with any other tribe.

The close association and prevailing friendly relations between the two tribes in historic times are reflected in tribal lore, which allies them as victims of other tribes in warfare and raiding and as partners in retaliatory expeditions. The origin myths and much other folklore of the two tribes are almost identical in content.

While the Walapai and Havasupai dialects are very similar, members 197
of both tribes are conscious of certain differences in vocabulary and speed of
utterance, the Havasupai speaking more slowly.

Thus, evidence seems to indicate a common origin for the two tribes. 174
Whiting (n. d., 11) suggests that designation of the Havasupai as a tribe independent of the Walapai "was probably only an accident of administrative history." However, separation occurred early enough to permit development of a group consciousness in both the Havasupai and the Walapai tribes.

Kroeber (1947, 41) describes seven subtribes or bands within the Wala- 174
pai tribe. "The Havasupai," he writes, "look like a Walapai band or subtribe 621
which has acquired somewhat greater ethnic, cultural, and historic independence" than the other seven.

Spier (1929, 317) classed the Havasupai culture as primarily Great 101
Basin in type with a minor inclusion of Pueblo traits. Kroeber (1947, 42) 114
notes that Havasupai resemblance to Great Basin culture lies not only "in con- 171
siderable specific content, but especially in similar meagerness of defined
patterns." Kelly (1953, 10) designates the Havasupai a Plateau Rancheria tribe along with the Walapai, Yavapai, Paiute, and Chemehuevi. Kroeber (1947, 41) simply classes the Havasupai, Walapai, and Yavapai together as Northwest Arizona Yumans.

Douglas W. Schwartz has made an archeological survey of Cataract 101
Canyon. Basing his conclusions principally upon pottery classification and 114
analysis, Schwartz postulates that the Havasupai are descendants of the
Cohonino people who, according to him, occupied the Coconino Plateau from 172
A. D. 600 to A. D. 1200 and migrated to Cataract Canyon, beginning about

Havasupai Reservation includes about 300 acres of cultivable land. Asahel 311
Perry, Indian Service extension agent, opined that in 1958 between 80 and
100 acres was under cultivation. A sizeable proportion of the arable acreage
is not utilized due to the small size of individual plots. Almost always
a family's holding consists of several patches of land scattered in different
parts of the canyon, a consequence of the manner in which land is inherited
or is distributed as need arises. Fences and ditches on the periphery of [657]
each field occupy a strip of ground about 3 ft. in width. Attempts to persuade
tribal members to throw individual plots into a tribal cooperative
farming program met with very limited success and the project was abandoned.
Removal of fences to facilitate use of modern farm methods no
doubt suggests to land owners a possible loss of claim to land or reduction
in acreage.

Land ownership is a source of frequent controversy between Havasupai 423
individuals. The Indian Service recognizes no clear legal title of an individual
to a plot of land, considering instead that an individual has a right to [578]
use the land which it regards as tribally owned. On the other hand, the
Indian Service recognizes individual ownership of houses on the land.

657 Five Havasupai individuals have accepted employment under the Indian Service Relocation Program. Three men, two of them unmarried, returned to the reservation within a short time. One man, a family head, has now been employed in a Los Angeles furniture factory for three years. An unmarried woman, in hospital work for 18 months, probably will continue on relocation; she had been previously employed off the reservation for approximately six years.

Religion

771 Havasupai religion finds expression in the songs and simple ritual of the sweat bath, in mythology, and in a body of traditional folk beliefs, as it does also in funeral customs and in shamanistic practices. Although religious ideology and ceremony are weakly developed, orientation toward the natural world and explanation of certain phenomena pertaining to man and his environment is made primarily in religious terms.

Spier (1928, 280) classed the Havasupai with the Great Basin tribes in 771
meagerness of religious development. He states that they resembled both 114
the "Basin-Plateau and Californian peoples in relative prominence of the 171
shaman, the acquisition of power through dreams, not visions, and an
hereditary bias to shamanism." They resemble, he says, the Southwestern
tribes only in their infrequent use of prayer plumes and in prayers
for rain and crop fertility. Traditional killing of an unsuccessful shaman
he likens to the practice of the lower Colorado tribes.

Death

The customs pertaining to death and disposal of the dead were reported 764
by James (1903, 259-64) for the turn of the century and by Spier (1928, 267-
9, 292-3) for a period about 20 years later. Their accounts, together with
my recent observations, provide rather detailed documentation for abandonment
of cremation in favor of burial and establishment of a different mourning
ceremony by diffusion from neighboring tribes and assimilation of certain
ideas from white contact. The Mohave dance which Spier saw being
practiced is now performed as a regular feature of the funeral complex, and
I participated in such an all night ceremony in 1951. However, an adequate
treatment of such material would be too lengthy for inclusion in the present
paper.

In brief summary, a corpse is washed and dressed in its best garments,
wrapped in a blanket or placed in a coffin and buried, usually in a hole dug
for the purpose. The ceremony, consisting of a dance borrowed from the
Paiutes and songs from the Mohaves, both arriving via the Walapai, is held [177]
for one or more nights, depending upon the prestige of the deceased and the
desire of the survivors. Gifts of clothing and personal property of the dead [768]
person are buried with the body or burned. His house is abandoned temporarily
or permanently or is torn down and sometimes rebuilt on another site.
A house may occasionally be burned, but this was not reported for recent
years. A horse or two belonging to the deceased is shot and a few fruit trees
may also be cut down. Leslie Spier (personal communication, 1957) notes [114]
that crops formerly were destroyed on the owner's death, for they were considered [423]
personal property.

Intermittently, memorial services similar to the funerals have been
held about a year after death, but this custom has not been fully established [114]
among the Havasupai. In the same communication, Spier pointed out that [171]
"a memorial service, held for a single dead man or a group, at intervals of
a year or longer, is characteristic of all the lower Colorado Yumans, the [765]
Walapai, the southern California tribes, and those northward through the
San Joaquin valley. It was possibly derived by the Havasupai from the Walapai, [769]
indeed, probably was so derived." Such a memorial service seems
contradictory to the Havasupai desire to forget the dead because of their
ghost fear, and this may explain why the custom has not become more popular.
In the case cited, the deceased was a favorite son.

A widow cuts her hair short but wears no special clothing. Relatives [551]
of the deceased observe a name taboo for about a year after the death, and
other people are careful not to remind them of the dead so they may forget
quickly. To speak the name of the dead would be to call him back to his
relatives; in his loneliness he might seek to take a relative with him to the [787]
land of the dead. Survivors sometimes dream of a dead relative, and a [755]
shaman may have to sing over the dreamer to drive the spirit of the de-

Decoration was kept to a minimum, almost always consisting of one, 285
two, or three lines with solid triangles aligned against them, or rows of 531
short parallel lines angling with the direction of weave. On one burden basket in use in 1950, ornamentation consisted of an encircling black line omitted on that portion of the basket which would lie against the bearer's back, Spier (1928, 127) notes that this was common practice. In coiled basketry for the tourist trade, more interest is taken in producing a pleasing decoration, but no distinctively Havasupai style has emerged. Three weavers are especially skillful in ornamentation, all of which is woven into the body of the basket with black strips from the seed pod of the devil's claw, the strips being sized to match the willows used in the remainder of the weaving. Designs usually are composed of small masses or lines of solid black. Animal or bird forms are occasionally represented, but geometric designs are more common. Ideas for designs are often original with the weaver rather than traditional in the tribe. One weaver imitated a four-leaf clover, creating a well balanced and pleasing effect. Another produced a spotty, poorly conceived design by scattering too many small images of birds and animals on the face of a tray. A young woman who decided to learn the weaving art consulted a book on Papago basket weaving to borrow designs.

Spier (1928, 155) notes, "The decorations on coiled baskets and twined burden baskets and trays of the Paviotso, Moapa, Yavapai, and Walapai bear definite resemblances to those of the Havasupai." [171]

Spier (1928, 128-38) gives a detailed description of techniques used in twining and coiling. Both processes also were observed and photographed by this investigator. Techniques used remain as Spier described them; and only additional observations will be recorded here. [114]

For twined baskets, twigs for the warp, or ribs, are prepared by mere- 285
ly stripping the leaves and leaving the bark. For weft, twigs are split into three strips starting at the small end by manipulating with the teeth and both hands. The pithy section of each weft strip is scraped off by drawing it at a right angle across the blade of a knife held parallel to the extended index finger. The bark is left on, and if a completed basket is examined closely, it may be seen that, in drying, the bark separates from the woody part of the strip giving the finished basket the effect of being woven with double weft strips. Weft strips are woven with the woody surface of each strip turned to the interior of trays and to the exterior of burden baskets so that the side most often seen on the finished product is the light golden color of the wood while the reverse side is the darker brown or tan of the bark. The weaver works with the woody surface of the weft strips or the "right" side of the basket toward her; hence, she weaves a tray holding the interior surface toward her but turns [illegible]urden basket upside down with its exterior surface toward her.

when the bathers come out they plunge into the stream, or lie on the 515 517
sand and rest until their turn again.

Horse racing is patterned after foot racing of former times. The 541
race is to a point and return. Considerable attention is given to the
preparation of the course on which the race is to be held, also to the
selection of horses. Races are usually for stakes and on special occasions, [525]
as the Peach Dance, a purse is offered the winner. The horsemen
do not jockey for a start, but start from stand-still.

Men and boys often hold wrestling contests. The contestants approach 526
each other in a slightly crouching position and lock their arms
around each other's body. Kicking and striking are not permitted. The
winner must be able to hold his man flat on the ground.

The Havasupai children are expert swimmers, often learning the 868
art very young. Mothers toss the small children in the creek of deep 481
water and in almost no time they paddle their way to the bank, one
would hardly say they are taught to paddle for it seems to come instinctively.

As canyon climbers the Havasupai probably surpass all other tribes. 481
Their muscles are developed by constant practice and they run up and 147
down the steep canyon trails in a manner to excite the envy of our college
athletes.

When an individual is very ill and it is feared that he may die, relatives 763
gather and begin to wail. A corpse is laid with the head to 764
the northwest, the hair washed in yucca suds, and the face painted.
Clothes are usually furnished by friends and relatives. The following
day every one gathers to mourn with the family. The chiefs talk of
the past life of the deceased and admonish the relatives to care for the
property of the deceased and not to commit suicide. Formerly the [423]
Havasupai cremated their dead but now they are buried. Each family
has a burial plot. When death occurs in a house the family moves out 768
for a few months. Personal possessions are buried. In recent years
the custom of burning personal treasures has not been as universal
as formerly.

RELIGION

The Havasupai creation myth and other legends are very similar to [17]
those of the Mohave and Yuma Indians living along the Colorado River. 773

In the Beginning there were two gods of the Universe. Tochopa 539
was a good god and Hokomata was very bad. The good god had a very beautiful daughter, Ter,keh-eh,(1) from whom he hoped would descend the whole human race to inhabit the big world. The wicked good seemed to possess the most magical power and to demonstrate it he proudly boasted he would flood the world and destroy all creation. The good god, Tochopa, fearing he would do this, made a boat of hollow piñon log in which he hoped to save his daughter. In this log he placed necessary food and other articles and also made a lookout window. Then he brought his daughter, and telling her she must get in the log and there be sealed up, he took a sad farewell of her, closed up the end of the log and waited for the destruction of the world. It was not long before the floods began to descend. Not rain, but cataracts, rivers, and deluges came covering all the earth with water. The log floated and in safety lay Pu-keh-eh while the water rose higher and higher covering all the mountains. After a while the flood ceased and the water found a way to rush into the sea. As it dashed down it cut through rocky plateaus and made the deep canyons of the Colorado River. Soon all the water was gone and the earth began to dry. The girl found her log no longer floating. She peeped out of the window her father had placed in her boat, and, though it was misty and

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(1) Sources of mythology here given are a Havasupai informant; Farish, History [115
of Arizona; and The Redman, a bulletin of mythology printed at the Phoenix Indian 127]
School.

	Central California	Southern California
Boats	balsa	canoe
Cradle	trapezoidal basketry sex indicated	U-frame *horizontal ribs
Birth Customs	*limited couvade *meat taboo	*limited couvade *meat taboo
Names	meaningful for ancestors	(for relatives?)
Social Organization	*some patrilineal moieties	patrilineal sibs ceremonial phratries
Marriage	*polygamous purchase *temporary matrilocal levirate sororate	*polygamous *agreement patrilocal levirate sororate
Kinship System	Omaha type	*Yuman type
Political Organization	rich chiefs *hereditary	*chiefs *hereditary titles for chiefs
	herald	ceremonial leaders
Money	shell money	
Shamanism	*important quest or *dream *some inheritance	*important by birth or *dream
	bear, snake, and rain doctors *disease agent pathogenic	bear, snake, and rain *pathogenic
Religious Concepts	guardian spirits	*- mystic, inward view
Rituals and Dances	Kuksu cult spirit impersonation initiation foot drum in winter	Toloache rites myth references initiation ground paintings song cycles

[p. 214 A-1]

7: Spier E-5 (1918-1921) 1929
NT14 Plateau Yumans NT14
Havasupai

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	Southern California	Lower Colorado River	Basin	West
	canoe *	balsa	some balsas	*
	U-frame *horizontal ribs	*U-frame *horizontal ribs	*elliptical vertical ribs	* *
			for transport	
	*limited couvade *meat taboo	*meat taboo	*limited couvade *meat taboo *scratcher	
	(for relatives?)	reticent *nicknames	*readily used *nicknames and meaningless	*
	patrilineal sibs ceremonial phratries	patrilineal inheritance of group names for women	*sibless	
	*polygamous *agreement patrilocal levirate sororate	*polygamous *agreement patrilocal	*polygamous bride service *temporary matrilocal levirate sororate	* *
	*Yuman type	*Yuman type	*Yuman and Mackenzie types	
	*chiefs *hereditary titles for chiefs	*tribal cohesion generous chiefs *hereditary war leaders	*chiefs; advisory hunt chief	
	ceremonial leaders	dance leaders	*speaker	
	*important by birth or *dream	*dream	*important men and women *dream	
		*shaman killed	*shaman killed	
ors	bear, snake, and rain			
)	*pathogenic	soul loss	*pathogenic	
	*_	*_		
	mystic, inward view	myth-dreams	(guardian spirits?)	
	Toloache rites myth references initiation ground paintings song cycles	absent song-myth cycles *Mohave dance *circle dance	*scanty *Bear dance *circle dance *reluctance to dance	

Table 1 (Cont'd)

[p. 214 A-2]

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	Western Rancheria	Pueblo
pas	*none	*none
al	*elliptical	rectangular?
ribs	*horizontal ribs	wood
port	for transport	*for sleeping
	also cloth swing	
couvade		
po		
r		
ased	*esoteric	esoteric
e and meaningless		refers to sib
		changed at initiation
	sibs; some pat- rilineal moieties	matrilineal sibs; some patrilineal moieties
s	*polygamous	monogamous
rvice	*agreement	*agreement
y matrilocal	patrilocal, some temporary matrilocal	matrilocal and patrilocal
	some levirate and sororate	*—
	some mother-in-law taboo	*—
Mackenzie types		Acoma and Crow types
dvisory	*chiefs; some hereditary	dual chieftainship
f	some councils	priestly councils
	crier	crier
	dance leader	war priest as dance leader
	*important	curing fraternities
women	men and women	*vision quest absent
	*inheritance	
lled		
	weather shamans	
c		*pathogenic
	*-	*—
spirits?)		*rain
		fertilization
		color and direction symbolism
	moderate	numerous; calendric
	curing dance	ceremonial fraternities
e	*harvest dance	initiation
nce	ground paintings	*masks
e to dance	some tablets	tablets

[p. 214 A-3]

7: Spier E-5 (1918-1921) 1929
NT14 Plateau Yumans NT14
Havasupai

●171

	Central California	Southern California	Lower Co
Food	wild seeds and small game	wild seeds and small game	*agricult mostly
			*plantin
			*side-sc
	fish		fish
		rabbit net	
		curved club	curved c
	*mortar	*mortar	wooden
		*grinding slab	*grinding
	*seed parching	*seed parching	*seed pa
Houses	earth lodge	*gable-roofed or	square:
	*gable or *conical	*conical	roofed
	mat covered	*brush and dirt	wood, b
Sweathouse	sweat club-house contains fire	*sweathouse fire	no swea
Basketry	*mush		scarce
	*twine	little twine	some tw
	*coil	coil	
	some jugs	some jugs	
	*conical burden	*conical	carryin
Weaving		*rabbitskin blankets	string
Pottery		rough, brown steatite pots	unslip painte
skinworking			
Dress	♂- apron	♂-apron	♂-apro
	hairnet	*♀-two aprons	* ♀-two
	*♀- two aprons	basket hat	
	*rabbitskin robe		*bead je
	*moccasins	fiber sandals	barefoo
	*tattooing	*tattooing	*tattooi
War and Weapons	*peaceful	*peaceful	warlike
	*self } bow	*self bow	*self bo
	*backed }	*reed arrows	*reed an
			club
	no scalping	*scalping	*scalpin

Table 1. The element

[p. 214 B-1]

ifornia	Lower Colorado River	Basin	Wes
nd	*agriculture	wild seeds and	som
	mostly women	small game	irri
			wild
			equ
	*planting stick		*pla
	*side-scraper hoe		*sid
	fish	fish	*fis
		*rabbit drives	
	curved club	rabbit net	
	wooden mortar	*seed beater	
b	*grinding slab	*grinding slab	*pit
g	*seed parching	*seed parching	*see
or	square; gambrel-roofed	*conical	*sub- *gab
rt	wood, brush and dirt	*brush and dirt	*bru
	no sweathouse	*sweathouse	*swe
		*stones, steam	*sto
	scarce	*much	*muc
	some twine	*twine	coi
		*coil	twi
		*jugs pitched	spl
	carrying frame	*conical	
lankets	string bags	*rabbitskin blankets	som
			loo
			*som
	unslipped	(some rough ware?)	*rou
s	painted		
		smoke tan	*man
	♂-apron or *breechclout	scanty; *♂breechclout	*♂-b
	* ♀-two aprons	♀-skin dress? *two aprons	*♀(
		basket hat	(
	*bead jewelry	*rabbitskin robe	*bea
als	barefoot?	*moccasins and sandals	*moc
	*tattooing		
	warlike	*peaceful	pre
	*self bow	*backed bow	*sel
	*reed and *wood arrows	*wood arrows	*woo
	club		
			*tur
			shi
	*scalping	*scalping	*sca

able 1. The elements characterizing the several sub-areas of the Havasupai area.

[p. 214 B-2]

7: Spier E-5 (1918-1921) 1929
NT14 Plateau Yumans NT14
Havasupai

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●171

	Western Rancheria	Pueblo
and	some agriculture with	*main dependence on
	irrigation	agriculture
	wild seeds and game of	*men and women till
	equal importance	*irrigation
	*planting stick	*planting stick
	*side-scraper hoe	*side-scraper hoe
	*fish taboo	fish
ves		*rabbit drives
		curved club
r		domestic turkey
lab	*pit roasting	*grinding slab
ing	*seed parching	*wafer bread
	*sub-conical or	communal; rectangular
	*gable roofed	
dirt	*brush and dirt	masonry
	*sweathouse	kiva
eam	*stones, steam	fire
	*much	scanty
	coil	splint
	twine	wicker
ed	splint	coil
blankets	some	much; men
	loom, spindle, belt loom	loom, spindle, belt loom
	*some cotton grown	cotton grown
n ware?)	*rough, brown	highly developed
		slipped and painted
	*men	(men?)
breechclout	*♂-breechclout	*♂-poncho
ns? *two aprons	*♀{apron or skirt	kilt
	skin dress	♀-square of cloth
robe	*bead jewelry	bead jewelry
and sandals	*moccasins and sandals	*moccasins and sandals
		*women barefoot at home
	predatory	*peaceful
	*self bow	*self bow
s	*wood and reed arrows	*wood arrows
		curved club
	*tunic armor	blade-studded club
	shield	shield
	*scalping	*scalping

of the Havasupai area.

[p.214 B-3]

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	Central California	Southern California
Rituals and Dances(cont.)	Rattlesnake rite shamanistic displays clown dance house magpie headdress cleft rattle	fire dance stick swallowing circular enclosure turtle and *gourd rattle feather skirt
Puberty Rites	some boys'toloache rites *girls' rites scanty *meat taboo *scratcher	boys' toloache rites girls' rites dance *heating *meat taboo *scratcher
Death Customs	*cremation some burial some mourning anniversary pitch on widows	*cremation some burial mourning anniversary
Pattern Number	*4,6	various
Folktales	animal tales personifications origins for traits	sky father and earth mother *birth and wandering of men *dying god god of ritual
Games	hand game	hand game
Language	Yokuts Miwok Wintun Maidu etc.	Shoshonean *Yuman Chumash

[p. 214 C-1]

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hern California	Lower Colorado River	Basin	Wes
		*dance directors	
dance		*shamanistic displays	*ma
k swallowing			*cl
ular enclosure		(circular enclosure?)	*br
le and *gourd rattle			
her skirt	basket drum	notched rasp	
' toloache rites	*(drink toloache)	*scanty girls' rites	gir
s' rites	*scanty girls' rites	seclusion	cer
e			
ing	*heating		
taboo		*meat taboo	
tcher		*scratcher	*sc
		burial	*cr
ation	*cremation	some cremation	bur
burial	*house burned		*ho
ning anniversary	mourning for notables		
	structure burned		
ous	*4	5	
		*animal stories	*em
er and earth mother	wandering heroes		*wa
d wandering of man	transformed		*wo
d	*antagonistic heroes		god
itual	*dying god		sib
	*flood		*co
	sky-rattlesnake		
	*tribes located		
	war tales		
	*hoop and pole	hand game	*st
game	*hidden ball		*hi
	*cup and pin		*ho
			*sh
		Shoshonean	Ath
honean	*Yuman	Washo	*Yu
n			Pi
ash			

Table 1 (Cont'd)

[p. 214 C-2]

7: Spier E-5 (1918-1921) 1929
NT14 Plateau Yumans NT14
Havasupai

● 171

asin	Western Rancheria	Pueblo
directors		altars
istic displays	*masks	ground paintings
	*clowns	*prayer offerings
ar enclosure?)	*brush enclosure	fetiches
		images
d rasp		ceremonial chambers
		*clowns
		dance directors
		*gourd rattle
		*drum
girls' rites	girls' adolescence	*(drink toloache)
ion	ceremony/seclusion	ceremonial washing
taboo		
her	*scratcher	
	*cremation	burial
remation	burial	
	*house turned	
		*4, *7
stories	*emergence and deluge	*emergence and deluge
	*water-and sun-conceived heroes	
	*monsters destroyed	
	gods	gods
	sibs located	
	*coyote tales	
ame	*stick dice	ritual significance
	*hidden ball	stick racing
	*hoop and pole	*hidden ball
	*shinny	*stick dice
		*hoop and pole
nean	Athapaskan	Tanoan
	*Yuman	Keresan
	Piman	Zuñi
		Shoshonean

[p.214 C-3]

7:Spier E-5 (1918-1921) 1929
NT14 Plateau Yumans NT14
Havasupai

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PROBLEMS ARISING FROM THE CULTURAL POSITION OF THE HAVASUPAI

By LESLIE SPIER

I

THE observation has often been made that culture areas are |2|
geographically and culturally continuous. As Wissler remarks in his study of the *Material Cultures of the North American Indians* (p. 468),[1] there commonly are no sharp breaks in cultural distribution. Transitions are gradual from one culture center to another of different type, the intervening groups presenting in sequence the whole range of traits combined variously. This is so much a commonplace that the field ethnologist acts on it, interpolating between known cultures to forecast what he might expect in a tribe lying between them.

In 1918–21 I visited the Havasupai Indians of northern Arizona for the American Museum of Natural History and the Southwest Society of New York. A description of their culture has recently been published, in which I have included a series of distribution studies, taking my departure from the traits of Havasupai life.[2]

The Havasupai are a small and little-known tribe living in the |0|
vicinity of the Grand Canyon of the Colorado. They are western |7|
neighbors, at some remove, of the Hopi and Zuñi, and as such it [13]
was expected that they would share the Pueblo culture of these peoples to considerable degree. This is not the case; the cultural step-down is surprising. Pueblo elements are only scantily repre-

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[1] American Anthropologist, n.s., 16: 447–505, 1914.

[2] Havasupai Ethnography. Anthr. Pap. Am. Mus. Nat. Hist., 29, pt. 3, 1928.

101 sented in their life, which on the whole is like that of the semi-
●171 nomadic, rude tribes of the Great Basin of Nevada and Utah. This is true not only of the Havasupai but also of the remaining groups of the western Arizonan plateau, the linguistically related Walapai and Yavapai.

121 In order to bring out the cultural position of the Havasupai I
128 have drawn up a table (table 1) of the elements characterising the several sub-areas of this region. I have leaned heavily on Kroeber's characterizations in his *Handbook of the Indians of California*,[3] and earlier papers. I have also built on the basis of Wissler's summaries of the material cultures, realizing however that the description of the Plateau area[4] hardly applies to its southern or Basin half. There is a very unequal weighting of the items of the table, the rich ritualism of the Pueblo, e.g., being dismissed with a few catch-words that level it to the order of the dances of the Basin tribes. And on the contrary I have enlarged on some minutiae because they offered an opportunity to show comparisons with the Havasupai. Like any tabular statement it suffers from
171 abridgment but shows the situation at a glance. It must be understood that the Havasupai, being geographically one of the Western Rancheria peoples, have been drawn on in framing the culture of that group.[5] Those items that Havasupai traits most closely resemble are marked by an asterisk.

A simple count of the traits in which the Havasupai resemble these groups shows half again as many correspondences with the Western Rancheria and Basin peoples as with the others. No importance can be attached to a count of this sort but the result does coincide with my judgment derived by less mechanical procedure. I will present this in the following summary.

105 Material culture and economic life place the Havasupai clearly
171 with the Basin group. To be sure they are primarily agricultural-

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[3] Bureau of American Ethnology, Bulletin 78, 1925.

[4] Op. cit., 451.

[5] The composition of this Western Rancheria group may not be obvious. It includes the tribes lying between the western Pueblos and the Colorado river i.e., Navaho, Western Apache, Pima, Papago, Tonto, Havasupai, Yavapai, Walapai, and others.

ists like the Pueblos and conduct cultivation in the same fashion, more so than the lower Colorado tribes. There is however an alternation with fall-to-spring seed- and root-gathering activities of the Basin type. The house construction of the Basin and Western Rancheria areas is similar, with the Havasupai showing something of lower Colorado and southern California forms as well. Their sweatlodge and its uses are of the type widespread in the western non-Pueblo area, the Basin, the Northwest, and the Plains. Domestic utensils are large numbers of baskets as in the Basin and in twine technique. Seed-beaters, parching trays, narrow-necked jugs, and conical burden baskets have Basin and central Californian affiliations on the whole. Pottery is specifically the Western Rancheria type, which has analogues in the southern Basin. Dress for women is the two-apron affair of California and the Basin in contrast to the Pueblo garment. Men's costumes resemble the Plains, hence may have no claim to antiquity.

Social customs and organization are of the excessively simple Basin type. Every vestige of sibs is lacking; the family is the sole unit, with some further nucleating because of common patrilocal residence, which in turn is based on patrilineal inheritance of land. Marriage is permissibly polygamous (in contrast to strict Pueblo monogamy) and contracted by agreement. Post-nuptial residence is temporarily matrilocal as in the Basin and central California, in contrast on the one side to the matrilocal western Pueblos and on the other to patrilocal southern California. Kinship terminology is characteristically Yuman. In the readiness with which personal names are used they are unlike the generality of Southwestern and Californian peoples. In their meaningless character, or as nicknames, these resemble the Basin. The slight political structure is also of Basin type: chiefs have advisory function alone and at meetings are provided with speakers. There is none of the pluralistic leadership (hunt bosses, etc.) of Basin type, however, and their bias toward hereditary succession aligns them rather with the Californians. Tribal solidarity of the lower Colorado pattern exists, but we must not overlook that the Havasupai form but a single local group in contrast to the large tribal aggregations of that region. On the other hand

105 they have emphatically the peaceful disposition of the Pueblos,
171 the Basin peoples, and California at large.

Crisis ceremonialism is absent. At birth, there is a limited couvade which connects with the Basin especially and California. Cremation aligns them with the tribes to the west rather than the Pueblos, but commemorative rites of the western region are lacking. Of adolescent rites, those for boys are lacking, as in the Basin; girls' rites and in fact menstrual customs at large are of the Californian type and the Basin, except that there is no seclusion, in which they are one with Pueblos and the Plains tribes.

The relative prominence of the shaman and the absence of organized religious rites is again an expression of an outlook basically of Basin type. Specifically, familiar spirits are possessed by shamans alone, whose power is acquired in dreams. Specialization is minimal; weather shamans, e.g., hardly form a separate class. The absence of the vision-quest is Californian, Basin, and Southwestern; the dream source, Basin and Californian. Disease is due to a pathogenic agent, as in all neighboring areas except the lower Colorado. Pueblo religious concepts appear only in some prayer plume planting, rain producing as an indefinite aim of social dancing, and Pueblo ritualism only in some slight masked dancing.

Dances are secular and specifically of Basin type, the round (squaw) dance and the Bear dance. Ritual dances of the Pueblos are as such absent; nor is the absorption of the lower Colorado tribes in ritual without dancing duplicated here. Masks, altars, ground paintings, god impersonation, ritual chambers, organized bodies, a priesthood, are all absent; on the other hand, song cycles are also.

Their mythology is a neat blend of Western Rancheria types, those of the Colorado and southern California, with a large ingredient of Basin tales. The dying god, the emergence and deluge, the wanderings of peoples, sun- and water-conceived heroes in the forms known to Pueblos and southern Californians are compounded. Familiar Coyote tales of the Basin reappear. There is no color-direction symbolism. The pattern number is four and sometimes seven, but it figures in the tales alone. In the Basin

and northwestward the number is five, in the Southwest and Plains, 105
four and seven, on the lower Colorado, four, in California at large, 171
quite variable.

All in all, Havasupai culture is of the Basin type with some 171
affiliations elsewhere in intangible culture; a few ritualistic elements link with the Pueblos, mythologic elements perhaps more with southern California. That the Havasupai link with other Western Rancheria peoples occasions no surprise since they are geographically one of them, but the striking observation is that in culture they conform equally to Great Basin characteristics. In fact, in the general simplicity of their culture and in the specific details of its elements, they are more clearly participants in Basin culture than in that of the western neighbors of the Pueblos.

In this the Walapai and Yavapai resemble them, so far as we know. Nor is this inexplicable, since all these are located peripherally to the Pueblo focus and at some distance, yet are relatively unaffected by the life of the lower Colorado. We must look upon the culture of these three tribes as representing an extension of the Basin area southward across the plateau of western Arizona.

It is not certain that such specific Pueblo elements as appear 171
among the Havasupai were directly derived. Their attenuation 174
suggests rather that they were derived from some intervening group, who in the light of known contacts, must have been the Navaho. The difficulty is that they may not have had contact with the Navaho before the middle of the last century, but it may also be that the traits are no older than that in Havasupai life. I have in mind here the few masked dancers and clowns, prayer plumes placed at springs, and the rather weak sentiment that dances are prayers for rain.

Agriculture among the Havasupai presents a somewhat dif- 171
ferent situation. This was their mainstay and as such makes them 241
one with the Pueblos. Yet I am not certain that their concern and pride in their crops means that they have derived this attitude directly from the Pueblos. On the whole I am of the opinion
that the intensity of a trait development is affected by neighbors' x

171 241 attitudes, but in this case there seems to be environmental determination. The home of the Havasupai is the one rich oasis in all western Arizona. If we picture them as originally like the [182] Walapai with but a moderate interest in cultivation, once they were settled in Cataract canyon the extension of agriculture was well-nigh thrust upon them.

II

121 It appears to me that there are two primary trains of thought flowing from the consideration of a tribe's cultural position, one culture-historical, the other relating to the conditions of culture growth. What I mean by the latter will, I trust, become clearer as I proceed.

One inquiry is as valuable as the other: I should not be inclined to eschew culture history reconstructions on principle as A. R. Radcliffe-Brown seems to do. But for an understanding of the nature of culture and the processes by which its forms come into being, it seems unnecessary to indulge in historical reconstructions of grand scope. Some of the recent attempts in this direction, noticeably those dealing with American cultures, impress a moderately conservative individual as being highly tenuous or even downright careless and frivolous. Furthermore, this type of reconstruction is unnecessary.

A specific example, which is by no means extreme, is Kroeber's placing of girls' adolescence rites in California in an ancient cultural substratum.[4] His argument rests on the universality of the rites in that area despite its cleavage into several distinct culture provinces. Other traits having a much narrower distribution, such as the boys' initiations in the south and the Kuksu cult in central California, are in his opinion much more recent institutions. One might reaffirm Kroeber's opinion concerning girls' rites by pointing out that they are universal not only in California but throughout the Pacific coast from Alaska to the Southwest, whereas they are lacking to the east. We may at least assent that

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[4] The History of Native Culture in California. Univ. Calif. Publ. Am. Arch. Ethn., 20: 123–142, 1923.

080 The published account of Havasupai ethnography contains a
large number of distribution studies covering as many items as
comparative material made possible. These distributions spread
in all directions from our center. The significance of this is contained in our often repeated assertion that a group are in all
probability not the originators of more than a fraction of their
● [171] culture. In the case of the Havasupai we may go so far as to deny
them any originality, for there is perhaps not a single trait for
which analogues may not be found somewhere in the vicinity.
Yet Havasupai culture is no more identical with that of their
neighbors than the physiognomy of two individuals in a closely
inbred group. Its individuality lies in the final form and combination with which they have stamped the common traits.

291 A specific example of this is to be found in women's dress.
This is comprised of two aprons; the one in front long, from breast
to ankles, and hung about the neck like a butcher's apron, that
behind hanging from waist to ankles. The front apron is a deer
hide retaining its natural contours, with the neck skin turned
down in front to form a yoke. With these a brief apron is worn
under the long front piece. The peculiar form of this front apron
becomes intelligible only when we consider the distribution of
291 other types of garments in adjoining areas. To the east we have,
apart from Pueblo women's dress, the long dress of the Plains
171 tribes comprised of two skins forming a straight line at the
shoulders and with the upper part (here the tail skin) turned
down to form decorative flaps or yokes front and back. This dress
in orthodox form is distributed as far west as Navaho, Jicarilla,
Mimbreños Apache, and Kaibab Paiute. To the west and north
women wear a short apron or two of skin or cords pendent from the
belt. This fashion prevails as far east as Apache-Yuma, Maricopa, Pima, and possibly the Western Apache and Mescalero. It
291 appears to me that the ancient western style known to Havasupai,
174 two short aprons, has been influenced by the Plains form. The
front apron has in effect been lengthened and the upper part
turned down to form a decorative yoke. It is immaterial that this
is hung by a band around the neck, for unless the back apron had
been similarly lengthened some such device was necessary. This,

then, is the special form which the Havasupai have given to the 291
combined Plains and apron dresses. Even this is not peculiar to 174
them alone, for the Yavapai have an identical costume. Other
tribes on the border of mingled distributions have made the 291
combination in other ways; the Kaibab have added a short 171
front apron over the Plains dress, the Navaho linked two squares
of cloth in the manner of the Plains dress, while quite another
combination is the use of aprons and long dress alternately, as
among the Klamath. Here we have illustrations of two kinds of
cultural composition, namely combination and duplication.

We may observe another process, the transfer of a technique, 281
in the sex division of labor. All work in skins is in the hands of 462
Havasupai men from the butchery of a deer to the manufacture 171
of a woman's dress. Skin dressing by men was also the custom
among the Navaho, Yavapai, and Cocopa. Skin dressing and
working in the Plains, on the other hand, is a womanly task, which
suggests that in the Southwest the Pueblo idea of men as garment
workers has been transferred to another material among their
Rancheria neighbors.

Quite another analysis may be made in the case of games. It 000
is possible to show that the moccasin game of the upper Mississippi
drainage and the Southwestern hidden ball game, while superficially alike, are so because of convergent development.

To turn to quite another sphere, we find here ownership of 171
fruit trees independent of the ground on which they stand, a 423
feature strongly reminiscent of parts of Melanesia and the west
coast of Africa. The factors in this development are obvious.
Havasupai ownership of land is really ownership of the produce
of the land, which is looked upon as so much personal property. [768]
Like other personal belongings, the standing crops are ordinarily
cut down and burned on the death of their owner. Fruits (peaches, [177]
ultimately derived from Spanish sources, and nuts) were seemingly
brought in as personal possessions and maintained as such. It
is, then, quite in harmony with Havasupai sentiment toward
land produce that the few fruit trees should be looked on as
personal belongings to be disposed of by testament or sale regardless of the site they occupy.

114 115 that Mr. Cushing has published anything further upon these very interesting people, although he was evidently among them for several days and must have in that time amassed some considerable information.

This is absolutely all the information of any importance that I have been enabled to get together about these Indians, and Mr. Gatschet has informed me that it is about all that has ever been written.

000 Science in general, and anthropology in particular, I must believe, would be well repaid could a good and active anthropologist live with these Indians for a month or more and gather up everything there is to be known about them.

114 The styles of their lodges and their architecture are well shown in my two plates. We can also see other objects there worthy of our attention, as the varied costumes of the men, women, and children, as well as the peculiar forms of their curious baskets lying about. Further, in Pl. II, it is interesting to note the fashion of fixing the hair in the women
191 and in the girls; it would seem that it pointed to affinities with the Pueblan Indians.

595 ried, the women being monopolized,
with or without their will, by the wealth-
ier and more influential men of the
tribe. The male population is in excess
[162] of the female; hence it sometimes hap-
pens that Hua-la-pai squaws are mar-
[582] ried; and in one instance a Moqui wom-
an, a probable outcast from her own
nation, was observed by us.

The children do not seem to have reg-
423 ular property, as with the Pueblos, un-
428 til after puberty, although, on the death
858 of the father, his portable property is
●171 inherited by the son, for sacrifice at the
rites to be described further on.

The head chieftaincy is hereditary.
622 In the absence of a son, the chief's neph-
643 ew on the father's side is, I believe,
chosen as successor. All of the sub-
chiefs are named by the head chief, on
account of personal preference, wealth,
or influence. There seems to be no dis-
554 tinct order of warriors; when a scalp is
565 taken, it is brought to the village, and
a dance, celebrating the death of the
[727] enemy, is given in honor of the victor,
and the body is then cremated; no rec-
ord or mark of dress being preserved to
represent the rank or prowess of the
warrior. In case of hostility, obligations
to war are simply coextensive with the
adult population. There is, however, a
certain importance attached to one of
the warriors, who is supposed to have in
his keeping a medicine of war, and who,
by virtue of his valor and possession, is
[624] a sort of war chief, although the civil
and martial affairs of the nation are
more closely allied than is the case with
most Indian tribes.

Nor is the ecclesiastical much distin-
643 guished from the civil, with them; for
793 the head chief combines with his polit-
ical office the caciqueship, or that which
in Zuñi is distinctively religious, being
termed Kia-kwe-mo-so-ne, or "Master-
ship of the House,"—a kind of high-
priesthood. He not only presides at
the more important councils, makes
treaties with other tribes, etc., directs

The/99 cont./
131 inaccessibility of their cañon home has tended to keep them
177 immune from outside influences, so that in many ways their
life is still delightfully primitive. Their typical dwelling
342 consists of a framework covered with brush or tule and sometimes with an outer covering of earth. In summer a four-post brush shelter is erected, which affords protection from the sun and allows free circulation of air.

262 The agave plant, cut and prepared in much the same way as by the Apache, has always been an important article of food among these people. Other native vegetal foods are grass seeds
224 and piñon nuts. From time immemorial the Havasupai have
[221] been hunters. On the approach of winter they left the cañon for the upper levels, built wickiups of boughs and bark, and spent the cold season in hunting. Deer were the principal game, although they killed some mountain sheep and an occasional black
[251] bear. Much of the venison was cut in thin strips and dried for
237 summer use. Deerskin dressed by the Havasupai was considered
281 the best by all neighboring tribes; consequently, it not only
[439] furnished clothing, but was an important medium of barter. But the life of the Havasupai has changed. Game is scarce, and
177
224 the Government does not willingly grant them permission to
648 hunt on the surrounding mesas, hence there is little wonder that the wrinkled veterans long for the old days when game was plentiful and they hunted where they would. "Now all is changed," they say. "We cannot go out of the cañon without asking the white man. We dare not hunt deer, as the game must be saved for the Háiko. We are no longer men; we are like little children; we must always ask Washington!"

241 Corn is now their chief staple, besides which they raise
262 beans, squashes, melons, pumpkins, sunflowers, peaches, apricots,
171 and figs. They prepare corn in countless ways, corresponding
252 largely to those of the Hopi. In fact, the modes of preparing corn by all tribes of /100/ the Southwest are much the same. Much of the crop is allowed to ripen on the stalk; this is later ground into meal on the metate. Quantities of green corn are harvested, roasted in large pits with the husks on, and hung to dry. This may be ground or simply shelled and cooked, either alone or with beans, meat, and dried squash. Like the figs, their

/101 cont./

622 and fair-minded; he ruled his people with unquestioned firmness, yet with fairness.

428 611 551 [614] [170] Children belong to and inherit property through the father. No trace of a clan system has been found, even in the naming of children, the means by which totemic names are perpetuated among the Yuman tribes of the Colorado river. In these tribes all the female descendants in the male line bear the gentile name, if such it may be called, but the Havasupai name their girls from some incident in their lives or from individual peculiarity, as, for instance, Tasáwǐchě, "Sunlight through the Leaves," Matěkalíwa, "Flapping Ears," and Chěkǔchěkŭ, "Dancing between Two Men." In so small a tribe a complete 582 [182] [614] clan organization, even if such existed, could hardly be perpetuated, since marriages between blood relations, though comparatively remote, are inevitable, and in the case of the Havasupai they are so common that no one can fathom the intricacies of his various relationships to other members of the 584 585 595 421 tribe. Marriage is by consent of the girl's parents and is without ceremony. Polygamy being common, property is held in severalty by man and wife, and in case of separation each takes his own.

764 [177] Until very recently the dead, as in all Yuman tribes were cremated; the present form of burial is in shallow graves in the rocks at the foot of the cliff. After death the family and friends assemble to mourn and tell the departed one that they are troubled, for they do not know where he has gone. Formerly 768 horses were killed at the grave, and all earthly possessions of the deceased, even /102/ his peach trees, were burned. Food was burned with the body, and the dwelling was razed and taken away to be rebuilt.

755 756 The medicine-men in their practices use no herbs, but resort wholly to incantation, believing that power to heal comes to them in childhood through dream-songs. Besides singing, the medicine-man sucks the seat of pain and pretends to extract therefrom either evil blood or foreign objects that cause the ill- 756 ness. In case of successful treatment the medicine-man is remunerated. He must keep the average of failures at a minimum,

/102 cont./

756 for if several deaths should follow his ministrations his avenging tribesmen would be sure to start his spirit on its journey to the
844 after-world. Women at childbirth are attended by four women, not necessarily medicine-women, although they use medicine songs.

171 Except for differences due to local coloring, the
773 Havasupai have the same creation legend and other mythic lore as the Yuma and the Mohave.

000 shaman was called upon to effect a cure.

753 755 Frequent cases of diarrhea in children were thought to result from the parents' eating spoiled meat or meat from an animal that had been killed by a predator. Shamans had to be told the particulars before attempting to cure.

Preventive Medicine

751 The Havasupai had few concepts of preventive medicine. Strips of porcupine skin with the quills attached occasionally were worn on a hat or on the back of the shirt over the shoulder to ward off illness. A sharp piece of obsidian worn as a pendant was thought to be similarly effective. No decoctions were drunk, no physical exercise was indulged in, and no precautionary ceremonies were employed as preventive medicine. [342] No care was taken to hide hair or nail parings nor was any significance attached to them. [825] Babies' hair, however, was not discarded on the ground; should a bird make a nest from it the infant might die. [761]

Medicinal Therapy and Contraceptives

757 Only a few plants and minerals were thought to have therapeutic value, and these were used primarily for minor dermatic inflammations. [See also Spier, 1928, 285.] Sap from stems of the willow was applied to pimples. Grass ashes were sprinkled on any type of open sore. A pinch of salt, either dry or dissolved in water, was blown on sore eyes. Needles of the Douglas fir were boiled and the liquid drunk to stem excessive bleeding from an injury or during menstruation. Tea made from the leaves of Ephedra or juniper was taken for diarrhea.

276 [We were unable to obtain any data concerning the importation and use of peyote. All informants denied it. Iliff (1954, 104-5) discussing the period just prior to 1900, also indicated that the Havasupai "apparently had no knowledge of peyote." Her illustration entitled "Under the tent the peyote cult will hold its all-night service, followed by a feast," seems [171] not to have been photographed in the Havasupai country. Although the Walapai might have experimented once with peyote (Iliff, 1954, 54-56), the movement did not last and is not present among them today.] Jimson weed was not used in any way according to most of our informants [and this is in agreement with James (1903, 256), although Spier (1928, 269) reported [757] its sporadic use by lay persons if not by shamans]. One individual, however, remarked that the juice from the leaf of jimson weed was rubbed on red ant bites.

To prevent conception a woman could urinate on red ants, eat the meat 842
of cottontail rabbit, antelope, or ground squirrel while menstruating (Smithson, 1959, 122) or drink a solution of water in which pack rat feces had been soaked. On the contrary, women could conceive more easily if they ate prairie dog meat. Abortion could be induced by carrying heavy objects or 847
by having one's husband step on one's back during the early months of pregnancy (Smithson, 1959, 123).

The Sweatlodge and Its Therapeutic Functions

We were unable to elicit data concerning the introduction of the sweat- 343
lodge to the Havasupai. [It is probable that they adopted it from the Southern Paiute, or less probably, from the Navajo. We have no archeological knowledge of its earliest use.] The legend (see p. 108) that Wolf and Coyote built the first one is of no help.

Our information concerning sweatlodge construction agrees generally with that of Spier (1928, 336, *Fig.* 57). No ceremony was involved in building the small domed structure. Several men cooperated, although women sometimes assisted. Openings faced east, with the area inside and just to the left of the door provided for the hot rocks. [In Navajo sweatlodges the
rocks are always to the right of the entry.] All present Havasupai sweat- [171]
lodges are dirt covered, as are those of the Navajo. [Spier (1928, 336) noted that in his day the framework was covered only with layers of blankets and buffalo robes but that Cushing (1882, 548) mentioned a covering of dirt. Actually, Cushing (1882, 374) also saw them "closely covered with blankets." Iliff (1954), in a photograph taken around 1900, illustrates a used one without a dirt covering, as does James (1911, 280), and it would seem that this certainly was the more common.] Our informants indicated that the dirt-covered sweatlodge became universal around 1920.

Spier (1928, 336) reported the size as "2 m. in diameter and 1.2m. high set over a circular pit 20 cm. deep." One that Smithson [and I] frequented was approximately the same: 2.05 m. in diameter; 1.07 m. high at center; 75 cm. high in area where participants sat; 53 cm. high at entry; 75 by 50 cm. area of heated rocks; 30 cm. depth of pit.

While the sweatlodge serves in some respects as a "clubhouse" for the 343
men (Spier, 1928, 335), it also involves certain therapeutic and ritual func- 75
tions. In former times, persons who had been wounded would receive part of their treatment in the sweatlodge, and even now individuals with broken bones and various aches, sprains and pains are treated there. A wounded man would enter the sweatlodge with a shaman and two others,

stood shuffling in place near the women's side, repeating the song, two or three times, before continuing to dance several minutes more. There appeared to be no signal to let the women know when the dance would end, and a few times the women followed the men to their side and were left standing when the men sat down. The women would giggle and run quickly to their chairs. 765 [533] [535]

On the whole, behavior of participants and spectators was respectful. Children occasionally moved around, but most slept throughout the funeral. At times, however, some of the young people in groups near the perimeter of the dance area talked and laughed as they drank coffee, and adults in the ceremony seemed not to pay close attention to the speeches. [A similar Walapai funeral that I attended at Hackberry, Arizona, in the summer of 1956 was far less subdued. There was much drinking on the part of the younger men and women who attempted to compete with the adult dances by singing and dancing "rock and roll" music. Frequent harangues by the older mourners did little to curb these semi-intoxicated actions. Otherwise, the Walapai and Havasupai funeral ceremonies were identical.] [171] ●

Shortly after midnight the men sang a song with a different time, and the dance consisted of a step, a pause, and a shaking or shimmying of the body followed by a step with the opposite foot. The women swung their bodies in time to the music and joined hands all along the line, holding them slight forward from the body. The men usually did not join hands, although one young boy danced the entire evening with his right arm draped around Neil's neck. 765 535

About 3:00 a.m., at the conclusion of one dance, Teddy danced sideways, using the round dance step. Followed by the men and then the women, he led the way around the area between the two rows of chairs, out the east end to the south. Here the dancers circled Clark and the other mourners who had stood up. After circling and singing several times, the dancers stopped and joined the wailing of the mourners. This was followed by a return of the dancers to their original position.

At 3:30 a.m. a rooster crowed. The sky was dark but filled with bright stars. There was no lightening of the eastern sky, but the people were stirred by a ripple suggesting relief. All night many had kept asking, "Nya gal we?," ("What is the time?"). 765

About 4:30 several people became very drowsy during a long speech by Arthur. In this he spoke philosophically about the Havasupai pantheon and their native religion. [539]

similar to the rain dance that Kroeber (1935, 202-3) reported for the Walapai 600

At least occasionally a rain dance was held near two rock pinnacles in a canyon upstream from the main village along the Topocoba trail. These dances did not involve masked impersonators and were held only in dry years in an attempt to bring moisture to the plateau. The rocks, ŏʔwiʔga ᵗʰʔ ƒwä (rock split apart) and ŏʔihʔgaˡčʔ ƒwävʔ (wood piled up), were near a small spring, and were considered rain "gods." No additional data concerning these events could be learned. 535 789

MYTHS AND LEGENDS

[The following 26 stories were collected from 10 informants by Mrs. Smithson in the summer of 1958. As in the preceding section of this study, the junior author's comments are placed in brackets and parenthetical remarks of the senior author are so indicated. 128

Although we do not have any other recordings of Havasupai myths and legends with which to make direct comparison, Kroeber's (1935, 245 ff.) 1929 field party collected several from Walapai informants. Since I believe that the Walapai and Havasupai were one and the same ethnic group prior to 1880, when they were separated by government fiat (Dobyns and Euler, 1960), Kroeber's will serve excellently. Kroeber (1935, 245) likened Walapai mythology to that of the lowland Yumans especially the associations of Mountain Lion, Wolf, and Coyote, although he felt that the "cooperation-antithesis" of the two latter animals was Plateau-Shoshonean. Since Walapai Ethnograph is now out of print, it will be of value to quote Kroeber's (1935, 245) conclusions in their entirety: 539* [101] [171] ●

> "The Walapai are certainly not skillful story-tellers, even after allowance for imperfections and our rendering. Their motivations are crude and trivial; they do not consistently build up a character--except the essentially inconsistent Coyote; they do not always hold consistently to the hero even within one tale; and they do not seem to feel, or at any rate are unable to express, well marked sympathy or identification with their personages, or to attach much emotion to them or their fate. They do like incident, irrespective of its inner connection with the plot; magic and trickery; and obscenity, sexual or otherwise." 538 539*

The veracity of those statements is apparent in the Havasupai tales that follow.